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HYMENOMYCETES BRITANNICI

"Pleniorem dabit lucem futura ætas."

Hymenomycetes Britannici

BRITISH FUNGI

(*HYMENOMYCETES*)

BY

REV. JOHN STEVENSON

AUTHOR OF 'MYCOLOGIA SCOTICA'

HON. SEC. CRYPTOGAMIC SOCIETY OF SCOTLAND

WITH ILLUSTRATIONS

IN TWO VOLUMES

VOL. I. AGARICUS—BOLBITIUS

WILLIAM BLACKWOOD AND SONS

EDINBURGH AND LONDON

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PREFACE.

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There is no royal road to the knowledge of Fungi; and it is impossible, with any regard to scientific accuracy, to avoid the use of language which at first sight may be repellent. It need not, however, be so in reality. The careful mastery of a few scientific terms by the aid of the Glossary (end of vol. ii.) will enable those who have not hitherto studied the subject to use the descriptions, not only with ease, but with much greater satisfaction in the identification of species. This is particularly the case in regard to Edible and Poisonous species. Any description of general appearance, which omitted scientific details, might be most misleading. The species must be carefully identified by means of the descriptions.[1] Comparatively few of the Agarics are used as food. Probably a much larger number are either edible or harmless.

It has been usual in the descriptive literature of Mycology to give a *diagnosis*, followed by a *description* of each species. This may be a convenient method in letterpress to illustrations; but in a work designed for practical use, it involves extensive repetition. I am aware that the departure from this method will touch existing prejudice; but it seems desirable

[1] Those who desire to become fungus-eaters are recommended to obtain Mr Worthington G. Smith's 'Mushrooms and Toadstools,' published by Hardwicke & Bogue at 1s. Its use along with scientific descriptions should avert the possibility of danger.

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to avoid repetition to the extent of one-third or one-half in the account of each species, and thereby to secure space for fuller description. Moreover, the *diagnosis* is not lost. From the arrangement which is adopted in printing, the student, if he is a student at all, can at a glance pick it out for himself.

The volumes are founded chiefly on Fries's 'Hymenomycetes Europæi' and 'Monographia Hymenomycetum Sueciæ.' The former contains the latest arrangement of genera and species; the latter the more detailed descriptions. 'Monographia' is now exceedingly rare, only a hundred copies having been originally printed; and I have carefully embodied from it all that it is of importance for the student to possess.

In some minute details reference has been made to the older works of Fries; and in such cases the critical student must compare these, in order to judge of the interpretation which has been given. The works which contain the views of Berkeley are 'English Flora,' vol. 5; 'Outlines of British Fungology;' and the long series of "Notices of British Fungi," published by Berkeley and Broome in the 'Annals and Magazine of Natural History.'

In giving references it has not been found possible to go beyond more recent works and illustrations. Any exhaustive treatment of synonyms, &c., would make the present volumes undesirably large for practical use. Other references will be found in 'Hymenomycetes Europæi,' a work which is certain to be in the hands of any one who will enter minutely into this part of the subject.

I have included only species which are undoubtedly British. Several have been omitted as apparently of exotic origin; some have been excluded as determined upon insufficient grounds; a few cannot be accepted without verification. The tendency in recent years has been to multiply species unnecessarily, and ultimately many so-called species must disappear. The pruning-knife must be unsparingly used; but this must be the work of a Congress of Cryptogamic Botanists, not of individual authors.

As far as space would admit, comparisons between different species, in appearance, affinity, &c., have been noted. These will often be found to be of great value in the identification of species. Observations (under the line which records habitats, &c.) other than my own bear the initials of their authors. The claims of space have necessarily made these very brief. The spore-measurements are those of Berkeley (M.J.B.), Berkeley and Broome (B. & Br.), Britzelmayer (B.), Karsten (K.), Phillips (W.P.), Plowright (C.B.P.), and Worthington Smith (W.G.S.)

Of the illustrations, it is sufficient to say that they are the work of Mr Worthington Smith. All the original coloured drawings, life-size, as well as actual examples, are in the British Museum, Natural History Department, South Kensington, where they may be seen by any one who desires to examine them; and I desire to express our special obligation to Dr Carruthers for the trouble and care he has taken in arranging them for future reference.

It is impossible to acknowledge in detail, as I could have wished, the assistance I have received in the preparation of the work; but it is with unfeigned pleasure that I desire to record my special obligation to the Rev. M. J. Berkeley, Rev. Canon Du Port, Rev. Dr Keith, Rev. David Paul, W. Phillips, C. B. Plowright, and Worthington G. Smith. We have had many discussions. Sometimes we have differed in opinion. More frequently we have agreed. The results are in the hands of critics.

In interpreting the mind of Fries, serious differences will be found between the descriptions contained in the present work and many which have been published in 'Grevillea.' I can only request that, before deciding between them, *scholars* will examine and compare the descriptions of Fries in the original language.

J. S.

Glamis, 1886.

HYMENOMYCETES.

The Hymenomycetes (so called from the *hymenium* or fruit-bearing surface) include most of the larger Fungi. The common Mushroom may be taken as the type, as all the members of the Family bear more or less resemblance to it in organisation and reproduction. The plant consists of the mycelium, the receptacle, and the reproductive organs.

The *Mycelium*, or body resulting from germination of spores (popularly known as "spawn") gives rise to a *Receptacle* upon which the *Spores*, or reproductive bodies, are produced. In the case of the mushroom—*e.g.*, what is popularly known as the fungus, consisting of a stem, pileus, and gills, is only the receptacle. The reproductive bodies are situated on the hymenium, which, in the case of the mushroom, is spread over the gills or plates on the lower surface of the pileus. On the hymenium are produced *sporophores* (basidia) which bear at the apex, usually in groups of four, either slightly stalked or sessile *spores*. On germinating the spores give rise to a new mycelium, which in its turn develops the spore-producing part of the plant. The Hymenomycetes vary in their substance, being fleshy, or woody, or gelatinous. They are divided into the following six orders :—

A. *HYMENIUM FIGURATE.*

I. Spread over the surface of lamellæ or gills = **Agaricini.**
II. Lining the interior of tubes or pores = **Polyporei.**
III. Clothing the surface of spines or protuberances of various forms = **Hydnei.**

B. *HYMENIUM EVEN.*

IV. Horizontal and mostly on the under surface = **Thelephorei.**
V. Vertical and produced all over the surface = **Clavariei.**
VI. Superior; gelatinous fungi = **Tremellini.**

ORDER I.—**AGARICINI.**

In the Agaricini the hymenium is spread over lamellæ or gills, which radiate from a centre or stem. The gills are composed of a double membrane, and are simple or branched. No type in the vegetable world has shown greater diversity of form.

GENUS I.—**Agaricus** L.

(The name is said to be derived from Agaria, a region of Sarmatia.)—The following are the distinguishing features of this large genus: Gills membranaceous, scissile, acute at the edge, persistent, concrete by the somewhat floccose trama with the inferior hymenophore. Veil various, but never in the form of a spider-web when universal. Spores separating from the sporophores, and falling off, hence the gills are not cinnamon-pulverulent as in the Cortinarii. *Fleshy or membranaceous, putrescent and not reviving when once dried up. Fr. Hym. Eur. p.* 17.

The genus Agaricus is divided into five series, which are determined by the colour of the spores. These are *white*, *pink*, *brown*, *purple*, and *black*. The white-spored species are the highest in type, being firmer and more persistent than those which have coloured spores. In these last there is a greater tendency to deliquesce, especially in the case of the black-spored Agarics.

SERIES I. **LEUCOSPORI** (λευκός, white, σπόρος, seed). Spores white, rarely whitish (dingy or inclining to reddish), globose, ovate or oblong, simple, even, very rarely rough. *Fr. Hym. Eur. p.* 17.

1. Agaricus (Amanita) muscarius. One-quarter natural size.

Subgenus I. **AMANITA** (a name given to some esculent fungi by Galen, perhaps from Mount Amanus.) Fr. Syst. Myc. i. p. 12. Universal veil (*volva*) which is at first continuous (completely enveloping the young plant) distinct from the epidermis of the pileus. Hymenophore distinct from the stem. *All growing on the ground. Fr. Hym. Eur. p.* 17. Some of the Amanitæ are edible, others very poisonous.

A. RING MANIFEST, SUPERIOR.

* *Volva bursting at the top or splitting all round, leaving a free persistent border at the base.* Whole fungus at first enclosed in the volva, which is con-

nate with the base of the stem, but only nestling in it and distinct from it. Amanita.
Pileus naked or clothed with broad membranaceous patches of the volva.

** *Volva splitting regularly all round, the base marginate and persistent, the calyptra (hood) broken up into thick warts on the pileus.* Volva adnate, at first enclosing the whole fungus, but the pileus is raised above the base of the stem and distinct from it, and therefore when it expands, the volva being adnate is necessarily split round about between their margins.

*** *Whole volva friable, broken up into small scales or warts,* and not persistent at the base of the stem, which is therefore altogether homogeneous and immarginate. Base of the stem somewhat rooted, growing in the ground and not within the volva, at first globoso-bulbous, but in various species depressed above by the pressure of the margin of the pileus; as the stem lengthens, the bulb is more and more effaced. The pileus at the very first appears as a small ball above the distinct base of the stem. The veil is generally rather thin, and hence in moist weather the fragments of it on the pileus appear as irregular, floccoso-mealy patches, which are easily brushed off, but in dry weather they assume the form of minute adherent warts with blackish scorched points. In some species the volva is thicker, and the warts even in moist weather are polygonal.

**** *Volva quite rudimentary, flocculose, wholly disappearing.* Stem at first lengthened out, and hence the base is never depressed. There is more frequently no trace of the universal veil; the partial one however forming a superior ring and the distinct hymenophore distinguish the group from the Armillariæ.

B. Ring obliterated or wanting.

A. RING MANIFEST, SUPERIOR.

* *Volva bursting at the top, &c.*

1. A. virosus Fr.—Wholly shining white. **Pileus** 7.5–10 cent. (3–4 in.) broad, fleshy, *at first conical and acute,* afterwards campanulate then expanded, naked, viscous in wet weather, shining when dry, *margin* always even, but most frequently *unequal repand* and inflexed; flesh white, unchangeable. **Stem** 10–15 cent. (4–6 in.) long, *wholly stuffed,* almost solid, split up into longitudinal fibrils, cylindrical from the bulbous base, often compressed at the apex, *torn into scales* on the surface, springing from a *lax, wide, thick volva,* which bursts open at the apex. Ring apical, lax, silky, splitting up into floccose fragments. **Gills** free, thin, linear-lanceolate but a little broader in front, not decurrent on the stem (although the apex of the stem is often striate), crowded, somewhat floccose at the edge.

The pilei are most frequently oblique, extended and lobed on one side as in *Hygrophorus conicus,* scarcely ever depressed. The pileus rarely becomes yellow. The fragments of the veil often adhere to the edge of the gills.

In woods. Uncommon. Aug.–Oct.

Fœtid, poisonous. Spores sphæroid or subsphæroid, 10–16 mk. *K.;* 8 mk. *W.P.* Name—*virus,* poison, stink. *Fr. Monogr.* i. *p.* 3. *Hym. Eur. p.*

Amanita. 18. *Sverig. ätl. och. gift. Svamp. t.* 84. *S. Mycol. Scot. Supp. Scot. Nat.* 1881, *p.* 33. *C. Illust. Pl.* 1.

2. **A. phalloides** Fr.—**Pileus** 7.5–10 cent. (3–4 in.) broad, commonly shining white or lemon-yellow, fleshy, *ovato-campanulate*, then expanded, *obtuse*, covered over with a pellicle which is *viscid* (not glutinous) in wet weather, naked, rarely sprinkled with one or two fragments of the volva, *the regular margin even.* **Stem** 7.5–12.5 cent. (3–5 in.) long, 1 cent. (½ in.) and more thick, solid downwards, bulbous, hollow and attenuated upwards, *rather smooth*, white. Ring *superior*, reflexed, slightly striate, swollen, commonly entire, white. Volva more or less buried in the soil, bulbous, *semifree*, bursting open in a torn manner at the apex, with a lax border. **Gills** free, ventricose 8 mm. (4 lin.) broad, shining white.

Pileus very variable in colour, commonly white (*Bolt. t.* 48. *Gonn. & Rab. t.* 10. *f.* 1.), or yellow (A. citrina *a Pers.*), becoming green (*Fl. Dan. t.* 1246), green (Am. viridis *Pers.*), olivaceous (*Krombh. t.* 69. *f.* 10-17), and occasionally variegated with tiger spots; in late autumn with the disc almost black but whitish round the margin. Odour somewhat fœtid, but little remarkable as compared with that of *A. virosus.*

In woods. Frequent. Aug.–Nov.

A very poisonous and dangerous species. Spores 8–9 mk. *W.G.S.* 8–10 mk. *B.* Name—φαλλός, εἶδος, appearance. Phallus-like. *Fr. Monogr.* i. *p.* 4. *Hym. Eur. p.* 18. *Sverig. ätl. Sv. t.* 2. *Berk. Out. p.* 89. *t.* 3. *f.* 1. *C. Hbk. n.* 5. *Illust. Pl.* 2. *S. Mycol. Scot. n.* 1. Fungus phalloides *Vaill. Par. t.* 14. *f.* 5. *Vivian t.* 15. *Barla t.* 4. *Fl. Batava t.* 829. *Krombh. t.* 28. *f.* 1-10. *Corda ap. Sturm t.* 55. *Price f.* 28. *Paul. Champ. t.* 155. *f.* 1, 2. *Hartz. t.* 5 &c. A. virosus *Vittad. t.* 17. *Inzenga Sicil. t.* 2.

* **A. vernus** Bull.—White. **Pileus** ovate then expanded, somewhat depressed, viscid, margin orbicular, even. **Stem** stuffed then hollow, equal, floccose, closely sheathed with the free border of the volva. Ring reflexed, swollen. **Gills** free.

In woods. Spring–Summer.

It does not seem to be distinguishable from *A. phalloides*, and is probably also poisonous. Name—*ver*, spring. A. bulbosus vernus *Bull. t.* 108. *Fr. Hym. Eur. p.* 18. *Berk. Out. p.* 89. *C. Hbk. n.* 4. *Illust. Pl.* 3. *S. Mycol. Scot. n.* 2. *Vittad. t.* 44. A. solitarius *Gonn. & Rab. t.* 11. *f.* 2. *Paul. t.* 156. *f.* 3, 4. The figures of *Bolton* and *Price* may be quoted for either.

3. **A. mappa** Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, commonly white or becoming yellow, slightly fleshy, convexo-plane, obtuse or depressed, orbicular, *dry*, margin for the most part even. **Stem** 5–7.5 cent. (2–3 in.) long, 6–10 mm. (3–5 lin.) thick, stuffed then hollow, almost equal above the bulb, rather smooth, white. Ring superior, soft, lax, here and there torn. Volva regularly *circularly-split*, somewhat obliterated; the globoso-bulbous base connate

with the stem, with an acute and distant margin; the calyptra covering the pileus divided into broad, irregular, somewhat separating scales. **Gills** adnexed, crowded, narrow, shining white. Amanita.

Odour stinking. The colour is that of *A. phalloides* (*Curt. Lond. t.* 32 and *Sow. t.* 286 figure both under the same name), less changeable, commonly white *Price f.* 66, with which A. virosa *Gonn. & Rab. t.* 9. *f.* 1. exactly agrees, more rarely straw colour, *Nees Syst. f.* 165, lemon-yellow *Gonn. & Rab. t.* 11. *f.* 1, becoming green *Krombh. t.* 28. *f.* 11, 12.

In mixed woods. Frequent. Aug.–Nov.

Poisonous. Spores sphæroid, 7–10 mk. *K.* 8–9×6–8 mk. *B.* Name—*mappa*, a napkin. From the volva. *Fr. Monogr.* i. *p.* 5. *Hym. Eur. p.* 19. *Berk. Out. p.* 90. *C. Hbk. n.* 6. *Illust. Pl.* 4. *S. Mycol. Scot. n.* 3. A. bulbosus *Bull. t.* 577. *f. D.G.H.M.* A. citrino-albus *Vittad. t.* 11. Am. venenosa *Pers. Champ. comest. t.* 2. *Paul. Ch. t.* 158. *b.* smaller and without warts: *Schæff. t.* 241.

*** Volva splitting regularly all round, &c.*

4. A. muscarius Linn.—**Pileus** 10 cent. (4 in.) and more broad, normally at first blood-red, soon orange and becoming pale, whitening when old, globose, then convex and at length flattened, covered with a *pellicle* which is *at first thick*, and in wet weather *glutinous*, but which gradually disappears, and sprinkled with thick, angular, separating fragments of the volva; *margin* when full grown *slightly striate; flesh* not compact, white, *yellow under the pellicle.* **Stem** as much as a span long, shining white, firm, torn into scales, at first stuffed with lax, spider-web fibrils, soon *hollow;* the *adnate base of the volva* forms an ovate bulb, which is *marginate with concentric scales.* Ring very soft, torn, even, inserted at the apex of the stem, which is often dilated. **Gills** free, but reaching the stem, decurrent in the form of lines, crowded, broader in front, white, rarely becoming yellow.

Var. regalis, twice as large, stem stuffed, *solid when young*, as much as 2.5–5 cent. (1–2 in.) thick, becoming light yellow within; the volva terminates in 8–10 concentric squamoso-reflexed rows of scales; pileus very glutinous, bay-brown, or the colour of cooked liver; gills yellowish.

Var. formosa, *soft*, fragile; *pileus* at first *lemon-yellow*, with mealy, lax, yellowish, easily separating warts, often naked; gills often becoming yellow. A. formosa *Gonn. & Rab. t.* 10. *f.* 2, with the warts rubbed off.

Var. umbrina, thinner and *more slender;* stem hollow, often twisted, bulb narrowed; *pileus* at first *umber* then livid, with exception of the disc which is fuscous; gills at length remote. *Viv. Ital. t.* 26.

In woods, chiefly birch and fir. Common. July–Nov.

Easily identified by its orange pileus, more or less covered with white warts, and pure white stem and gills. Spores sphæroid-ellipsoid, 10–12×8–9 mk.

Amanita. *K.;* 6×9 mk. *W.G.S.* Very poisonous (*Clus. Pern. g.* xiii. 4. *Sterb. t.* 28 *A—C*). Producing intoxication, delirium, and death. Used in Kamtchatka as a narcotic. Name—*musca*, a fly. Called Fly Agaric, from the use of the decoction as a fly-poison. *Linn. Fl. Suec.* 1235. *Fr. Monogr. i. p.* 7. *Hym. Eur. p.* 20. *Berk. Out. p.* 90. *C. Hbk. n.* 7. *Illust. Pl.* 117. *S. Mycol. Scot. n.* 4. *Grev. t.* 54. *Hussey t.* 1. *Krombh. t.* 9. *Vittad. t.* 5. *Sv. Bot. t.* 108. *Fr. Sverig ätl. o. gift. Sv. t.* 1. *Viv. Ital. t.* 29. *Hartz. t.* 1. *Hoffm. Ic. an. t.* 1. *Paul. t.* 157. Smaller, without warts; *Schæff. t.* 28. *B. & Br. n.* 1500*. A. puella *Gonn. & Rab. t.* 7. *f.* 2.

5. A. pantherinus D.C.—**Pileus** commonly olivaceous-umber when young, fleshy, convex then flattened or somewhat depressed, with a *viscous pellicle*, which is at first thick and olivaceous-fuscous, then thinned out, almost disappearing and livid, the disc only becoming fuscous; *margin evidently striate;* the fragments of the volva divided into small, equal, white, regularly arranged, moderately persistent warts; *flesh wholly white*, never yellow beneath the pellicle. **Stem** 7.5–10 cent. (3–4 in.) long, 12 mm. (½ in.) thick, at first stuffed then hollow with spider-web fibrils within, equal or attenuated upwards, slightly firm and sometimes squamulose downwards, *greaved* at the base by the separable *volva which has an entire and obtuse margin.* Ring more or less distant, adhering obliquely, white, rarely superior. **Gills** free, reaching the stem, broader in front, 6–8 mm. (3–4 lin.) broad, shining white.

Flesh of the pileus *thinner* than in neighbouring species. So like var. *umbrina* of *A. muscarius* that Persoon, Secretan, and other colourists have confounded them, but very different from it (in the order of nature intermediate as it were between *A. strangulatus* and *A. aridus*, and truly abnormal in this group); for the *base* of the circularly ruptured *volva* indeed forms a *sheath adnate to the stem*, but is separable from it, and marked by a *proper obtuse* continuous *margin*, and not furnished with the concentric scales of the rest. It is readily distinguished from *A. muscarius* var. *umbrina* by the white flesh never becoming yellow beneath the pellicle. Variable in size and colour, which, however, is never red or yellow, and in the position of the ring.

In woods and pastures. Frequent. Sept.–Oct.

Solitary. Pileus 10 cent. (4 in.) broad; when dry soft to the touch like kid-leather. *M.J.B.* Poisonous. Spores 7–8×4–5 mk. *K.;* 6–10 mk. *B.;* 8×4 mk. *W.G.S.* Name—*pantherinus*, spotted like a panther. *Dec.—Fr. Monogr.* i. *p.* 9. *Hym. Eur. p.* 21. *Berk. Out. p.* 90. *C. Hbk. n.* 9. *Illust. Pl.* 2. *S. Mycol. Scot. n.* 5. *Fl. Dan. t.* 1911. *f.* 2 young. *Vittad. Fung. mang. t.* 39. *Krombh. t.* 29. *f.* 10–13. *Paul. Champ. t.* 160, *f.* 2. *Viv. t.* 26. *Schæff. t.* 90.

6. A. excelsus Fr.—**Pileus** 10–12.5 cent. (4–5 in.) broad, *fuscous-grey*, darker in the centre, *fleshy*, soft, globose then plane, *pellicle thin*, but viscous and in reality separable in wet weather, then the surface is often *wrinkled-papillose*, or in a peculiar manner hollowed and pitted, sprinkled with angular, unequal, whitish-

grey, easily separating warts, the remains of the friable volva; margin at first even, but when properly developed manifestly striate, even sulcate; flesh soft, white throughout, unchangeable. **Stem** 10–15 cent. (4–6 in.) long, 2.5 cent. (1 in.) thick, at first stuffed, almost solid, but at length hollow, globoso-depressed at the base, attenuated upwards from the bulb, covered, sometimes as far as the ring, sometimes only on the lower part, with *dense, squarrose, concentric scales* (from the epidermis of the stem being torn), striate at the apex. Ring superior, large, separating-free or at length torn. **Gills** quite *free, rounded* (not decurrent on the stem in the form of lines), very ventricose, 12 mm. (½ in.) and more broad, shining white. Amanita.

The *bulb when young* is *somewhat marginate*, but by no means separable, the margin proper like that of *A. muscarius* is marked with scales, buried in the soil, somewhat rooting, beneath the margin marked here and there with a concentric furrow. The shorter gills intermixed are more numerous than is usual among *Amanitæ*. There is a smaller variety, with the margin more frequently striate, and the stem stuffed then hollow. *Paul. t.* 159. *f.* 1, 2. *Krombh. t.* 29. *f.* 14.

In woods, chiefly under beech. Frequent. July–Oct.

Solitary. Taste not unpleasant, but poisonous. Spores 6×9 mk. *W.G.S.* Name—*excelsus*, tall. *Fr. Monogr.* i. *p.* 8. *Hym. Eur. p.* 21. *Berk. Out. p.* 91. *t.* 3. *f.* 3. *C. Hbk. n.* 8. *Illust. Pl.* 7. *S. Mycol. Scot. n.* 6. *Krombh. t.* 29. *f.* 14–17. *Letell. Suppl. t.* 40. Am. pantherina *Gonn. & Rab. t.* 1. and A. excelsa *t.* 8. *f.* 1. without warts. *Paul. t.* 159. (*Bolt. t.* 47 very bad.)

7. A. strobiliformis Vitt.—**Pileus** white, becoming cinereous, convex then expanded, pelliculose, the margin, which extends beyond the gills, even, warts hard, angular, and closely adnate; flesh compact and white. **Stem** solid, floccoso-scaly, thickening downwards into an underground bulb, which is *acutely marginate* with (1, 2) *concentric furrows*. Ring torn. **Gills** rounded-free.

Grassy borders of woods. Rare. July–Sept.

Pileus when young subglobose, bulb of the stem conical below, rooting, its border sometimes incised all round, sometimes even, floccose above to the edge of the pileus; scales of pileus large, wart-like, with a brown disc and white floccose border, at length falling off. Pileus when expanded 8 or 9 inches across, at length quite smooth; margin extending beyond the gills. Stem 6–7 inches high, 1½ inch thick, firm, solid; bulb not properly scaly; veil large; gills rounded behind, the shorter ones denticulate at the base. Smell and taste at first slight, at length disagreeable. Too much stress must not be laid upon the incision of the bulb, or its scales, for neither character is constant. *B. & Br.* Spores 8×14 mk. *W. G. S.* According to Worthington Smith its esculent qualities are of a high order, but its rarity makes it of little value. Name—*strobilus*, a pine-cone. From the supposed similarity of the warts to the scales of a pine-cone. *Vittad. Fung. mang. t.* 9. *Fr. Hym. Eur. p.* 21. *B. & Br. n.* 662. *Berk. Out. p.* 90. *t.* 3. *f.* 2, very young. *C. Hbk. n.* 10. *Illust. Pl.* 8. *S. Mycol. Scot. n.* 7. *Ventur. t.* 4. A. solitarius *Bull. t.* 593. *Paul. Champ. t.* 162. *Soc. Med. t.* 16. *f.* 2.

Amanita.

**** Whole volva friable, &c.*

8. A. rubescens Pers.—**Pileus** about 10 cent. (4 in.) broad, dingy reddish, becoming pale flesh-colour, tan, scarcely pure, fleshy, convex then plane, obtuse, moist but *not viscous* in rainy weather and opaque when dry, covered with unequal, soft, mealy, whitish, easily separating warts, which are smaller, harder, and more closely adherent in dry weather; margin even, and when old slightly striate only in wet weather; flesh commonly soft, white when fresh, *reddening when broken*. **Stem** 10–12.5 (4–5 in.) long, as much as 2.5 cent. (1 in.) thick, stuffed, somewhat solid, though soft within, conico-attenuated from the thickened base, reddish-*squamulose*, becoming red-white, and without a trace of a distinct volva at the base. Ring superior, large, membranaceous, soft, striate and white within. **Gills** reaching the stem in an attenuated manner, forming decurrent lines upon it, thin, crowded, soft, as much as 12 mm. (½ in.) broad, shining white.

Very changeable, but readily distinguished from all others of the same group *by the flesh being reddish when broken;* the stem and pileus are commonly spotted-red when wounded. In dry weather it is firmer, flesh reddening more slowly, warts minute: *A. verrucosus* Bull. t. 316. Odour scarcely any. There is a remarkable variety *circinata*, pileus becoming plane, umber-rufous, warts adnate, crowded, roundish. A. circinatus *Schum. Fl. Dan. t.* 2140.

In woods. Common. June–Nov.

Spores sphæroid-ellipsoid, 7–8×6 mk. *K.;* 8×6 mk. *W.G.S.;* 7–9×6–8 mk. *B.* Edible. It is delicious and perfectly wholesome; although it has frequently been reckoned (*Clus. Pern. g.* vii. 3) among doubtful species. Valuable as an esculent species on account of its abundance. Name—*rubesco*, to become red. *Fr. Monogr.* i. *p.* 10. *Hym. Eur. p.* 23. *Berk. Out. p.* 90. *C. Hbk. n.* 11. *Illust. Pl.* 9. *S. Mycol. Scot. n.* 8. *Krombh. t.* 10. *Vittad. Fung. mang. t.* 41. *Fr. ätl. Sv. t.* 74. *Viv. It. t.* 22, 27. *Hussey t.* 23. *Badh. t.* 12. *f.* 1, ii. *t.* 11. *f.* 3–5. *Gonn. & Rab. t.* 5. *Letell. t.* 667. A. rubens *Scop.–Schæff. t.* 91, 261. Le Rougêatre *Paul Champ. t.* 161. *Soc. Med.* 1776 *t.* 13.

9. A. spissus Fr.—**Pileus** umber, fuliginous or grey, fleshy, somewhat compact, convexo-plane, obtuse, smooth, even, but *marked with small, cinereous, angular, adnate* warts; margin even, but often torn into fibres; *flesh firm, white, quite unchangeable*. **Stem** 5–7.5 cent. (2–3 in.) long, as much as 2.5 cent. (1 in.) thick, *solid, turnip-shaped at the base*, somewhat rooting with a globoso-depressed not marginate bulb, curt, firm, shining white, at length *squamulose with concentric cracks*. Ring superior, large. **Gills** reaching the stem, *slightly striato-decurrent*, broad, crowded, shining white.

In mixed woods. Uncommon. July–Sept.

Pileus about 7.5 cent. (3 in.) broad. Stem 6–7.5 cent. (2½–3 in.) long.

Spores 14 mk. *W.G.S.*; subglobose, 8–10 mk. *C.B.P.*; 6 mk. *W.P.* Name—*spissus*, compact. *Fr. Monogr.* i. *p.* 12. *Hym. Eur.* p. 23. *C. Hbk. n.* 12. *Illust. Pl.* 39. *S. Mycol. Scot. n.* 9. Am. cinerea *Krombh. t.* 29. *f.* 1–5. A. strobiliformis *Gonn. & Rab. t.* 7. *f.* 3. Amanita.

10. A. nitidus Fr.—**Pileus** when flattened 10 cent. (4 in.) broad, whitish, fleshy, *somewhat compact*, at first hemispherical, wrapped up, the *thick volva* forming a floccose crust, then *broken up into thick, remarkably angular, adhering warts, which become fuscous*, dry, shining, without a viscous pellicle, margin always even; flesh *white, quite unchangeable.* **Stem** 7.5 cent. (3 in.) long, 2.5 cent. (1 in.) thick, solid, *firm*, conico-attenuated, *with a bulb-shaped base, squamulose*, white. Ring superior, thin, torn, slightly striate, white, villous beneath, at length disappearing. **Gills** *free*, crowded, *very broad*, as much as 12 mm. (½ in.), ventricose, shining white.

The pileus very rarely inclines to become yellow or green. Easily distinguished by its warts.

On the ground in woods. Mattishall.

Several specimens approach so near to *A. mappa* that it is difficult to distinguish them. *B. & Br.* Name—*niteo*, to shine. *Fr. Monogr.* i. *p.* 12. *Hym. Eur. p.* 24. *Icon. t.* 12. *f.* 1. *B. & Br. n.* 1833. *C. Illust. Pl.* 70. Bulbeux a facette de diamant *Paul. Champ. t.* 162. *Soc. Med. par. t.* 16. *f.* 1. *Battar. t.* 6. *f.* B.

11. A. asper. Fr.—**Pileus** 5 cent. (2 in.) and more broad, olivaceous-fuliginous, fleshy, lens-shaped-convex, then plane, thin and *even at the margin, roughened with minute, regular, angular, very crowded, closely adnate warts;* flesh compact, white, *becoming fuscous under the cuticle.* **Stem** stuffed then hollow, at first *curt*, ovate, then elongated, 5–7.5 cent. (2–3 in.) long, attenuated from the somewhat wrinkled bulb, *squamulose*, externally and internally white. Ring superior, entire. **Gills** *rounded-free*, not striato-decurrent, ventricose, white.

In beech and fir woods. Uncommon. Aug.–Nov.

Spores 8×6–7 mk. *W.G.S.* Name—*asper*, rough. *Fr. Monogr.* i. p. 12. *Hym. Eur. p.* 24. *Berk. Out. p.* 91. *C. Hbk. n.* 13. *Illust. Pl.* 34. *S. Mycol. Scot. n.* 10. *Vittad. Fung. mang. t.* 43.

******** *Volva quite rudimentary, flocculose, &c.*

12. A. magnificus Fr.—**Pileus** 7.5 cent. (3 in.) broad, whitish, livid, pallid reddish-tan, &c., fleshy, thin, plane when full grown, scarcely umbonate, commonly naked, but often sprinkled with irregularly placed floccose spots, not forming warts; the *margin evidently striate* when full grown; flesh thin, *white*, but changeable when broken, turning *tawny* rather than reddening. **Stem** elongated, slender, 7.5–10 cent. (3–4 in.) long, 6–8 mm. (3–4 lin.)

Amanita.

thick, stuffed with a somewhat distinct pith, at length hollow, *equal*, or slightly attenuated upwards, and without any traces of a bulb or veil at the base, *becoming red-whitish, squamulose below*, concentrically cracked upwards when dry. Ring superior, separating. **Gills** *adnate*, but ventricose, 4–6 mm. (2–3 lin.) broad *with a decurrent tooth.*

Much allied to *A. rubescens* in habit but differing in the definitely hollow somewhat equal stem, in the rigid cuticle, in the pileus being thinner and manifestly striate at the margin, in the flesh turning tawny, in the adnate gills, and in the universal veil being thin and fugacious.

In Scotch fir wood. Rare. Glamis, 1876. July–Sept.

My specimens had a bulbous base, and agreed exactly with *Fl. Dan. t.* 2148. *f.* 1, which is referred by Fries to this species. The cuticle is much paler than in *A. rubescens*, and tinged over with tawny-red. Name—*magnificus*, splendid. *Fr. Monogr.* i. *p.* 13. *Hym. Eur. p.* 25. *B. & Br. n.* 1631. *S. Mycol. Scot. n.* 11. *Fl. Dan. t.* 2146. b. Ag. adnatus *Schum. Fl. Dan. t.* 2148. *f.* 1.

13. **A. megalodactylus** Berk. & Br.—**Pileus** 9 cent. (3½ in.) broad, reddish-grey, convex, soft, smooth; cuticle entire, margin even. **Stem** 12.5 cent. (5 in.) long, solid, somewhat bulbous, fibrillose. Ring very large, placed near the top of the stem. **Gills** free, moderately broad, pallid, at length tinged with red.

Strong-scented. Allied to *A. lenticularis*, but the solid stem is not squamulose, and the gills do not assume an olive tint.

In woods. Wothorpe, Stamford.

Name—μέγας, great, δάκτυλος, a finger. Tall-stemmed. *Berk. Out. p.* 91. *C. Hbk. n.* 14. *Illust. Pl.* 11. *Fr. Hym. Eur. p.* 25.

14. A. lenticularis Lasch.—**Pileus** 7.5–10 (3–4 in.) broad, *flesh tan colour*, fleshy, globose when young, then campanulato-convex, *even*, smooth, moist; flesh soft, spongy, white, with a mouldy odour. **Stem** elongated, 10–15 cent. (4–6 in.) long, slightly bulbous at the base or wholly equal, solid, but very *spongy-soft*, more or less *squamulose*, sometimes almost smooth. Ring superior, but distant from the pileus, even, large. **Gills** *wholly free*, approximate, ventricose, broader in front, very crowded, whitish, sometimes inclining to olivaceous.

The pileus varies, yellowish and becoming pale, *In very wet weather there are* dark-green *watery drops* on and *above the ring*, which when dried commonly leave dingy spots.

In mixed plantations. Coed Coch. Oct.

Remarkable for the great development of the ring, and the smooth pinkish-tan pileus. *B. & Br.* Name—*lenticula*, a lentil. *Lasch. Linn.* iii. *n.* 18. *Fr. Monogr.* i. *p.* 15. *Hym. Eur. p.* 26. *Icon. t.* 13. *B. & Br. n.* 1104. *C. Hbk. n.* 15. *Price f.* 88. A. (Lep.) lenticularis *C. Illust. Pl.* 17.

B. RING OBLITERATED OR WANTING.

15. A. vaginatus Bull.—**Pileus** 5–12.5 cent. (2–5 in.) broad, livid, &c., slightly fleshy, at first campanulate then flattened obtuse and even, smooth, naked and rarely covered with fragments of the volva, moist in rainy weather, somewhat shining when dry, at the margin wholly membranaceous, elegantly *sulcate like the teeth of a comb;* flesh whitish. Volva *wholly free, sheathing, lax,* fragile. **Stem** *hollow,* with spider-web fibrils within, attenuated *equally from the base,* commonly slender, but when larger as much as 2.5 (1 in.) thick, very soft however and fragile, externally torn into squamules. Ring obsolete. **Gills** free, ventricose, not much crowded, shining white or becoming pale.

II. Agaricus (Amanita) vaginatus. One-quarter natural size.

The ring though obsolete is present, more or less conspicuous at the base of the stem, disclosed in the volva. The stem is somewhat stuffed when very robust. Two forms may be noted as varieties: (a) *fulva,* pileus and volva tawny: A. fulvus *Schæff. t.* 95. *Fl. Dan. t.* 2142. A. trilobus *Bolt. t.* 38. *f.* 1. (b) *alba,* wholly white: A. fungites *Batsch f.* 79. A. nivalis *Grev. t.* 18. The tawny and brightly coloured forms appear in summer; the livid and fuscous forms, which are the larger, in autumn.

In woods, &c. Common. June–Nov.

Stem as much as 15 cent. (6 in.) long. Spores sphæroid or subsphæroid 10–15 mk. *K.;* nearly spherical, 10–14 mk. *B.;* 9 × 8 mk. *W.G.S.* Edible, and of excellent flavour, though reckoned among dangerous species by older authors. The chief objection to its use as food is the thinness of the flesh, Name—*vagina,* a sheath. *Bull t.* 98, 512. *Fr. Monogr.* i. *p.* 2. *Hym. Eur. p.* 27. *Berk. Out. p.* 91. *t.* 3. *f.* 4. *C. Hbk. n.* 1. *Illust. Pl.* 12. *S. Mycol. Scot. n.* 12. *Fl. Dan. t.* 1014. *Krombh. t.* 1. *f.* 5, *t.* 10. *f.* 6–9. *Vittad. t.* 16. *Hussey* ii. *t.* 34. *Barla t.* 5. *Ventur. t.* 5. *Gonn. & Rab. t.* 7. *f.* 1. &c. *Badh. p.* 142. A. plumbeus, hyalinus, badius *Schæff. t.* 85, 86, 244, 245. A. pulvinatus *Bolt. t.* 49.

16. A. strangulatus Fr.—**Pileus** 7.5–10 cent. (3–4 in.) and more broad, date-brown-livid, becoming pale, fleshy, campanulate then flattened, obtuse, smooth, viscid, commonly variegated and occasionally fully *covered* over with *broad, crowded,* plane scales; margin striate, then deeply *sulcate,* almost like the teeth of a comb. **Stem** wholly stuffed when young, somewhat hollow only when old, closely sheathed at the base by the circularly split volva. Ring *inferior,* about 2.5 cent. (1 in.) *distant from the base,* rarely medial. **Gills** free, crowded, ventricose, shining white.

Amanita.

The spurious ring forms a kind of zone on the stem; it is not enclosed in the volva like that of *A. vaginatus*. Intermediate between *A. vaginatus* and *A. pantherinus*, but larger and more robust than either.

In woods. Uncommon. July–Sept.

A. Ceciliæ B. & Br. Mouse-grey. Distinguished by its less perfect volva and stuffed stem, which does not simply contain a few cottony fibres, as that of *A. vaginatus*, *M. J. B.* Spores 16 × 8 mk. *W.G.S.* Name—*strangulatus*, choked. *Fr. Monogr.* i. *p.* 3. *Hym. Eur. p.* 27. *Icon. t.* 11. *S. Mycol. Scot. n.* 13. *Saund. & Sm. t.* 40. *C. Illust. Pl.* 13. A. Ceciliæ *B. & Br. n.* 663, ring awanting. *Berk. Out. p.* 92. *t.* 3. *f.* 5. *C. Hbk. n.* 2. *Price f.* 112.

17. A. adnatus Smith.—**Pileus** 6–7.5 cent. (2½–3 in.) broad, pale buff-yellow, fleshy, very firm, not brittle, smooth, somewhat moist, convex then expanded, buff beneath the cuticle, margin extending beyond the gills. **Stem** 5–10 cent. (2–4 in.) high, stuffed, at length hollow, pale buff, fibrillose. Ring none. Volva lax, adnate, or almost obsolete, white, pubescent, remaining in woolly patches on the pileus; flesh white, firm, almost rigid. **Gills** truly adnate, crowded, white.

Flesh almost rigid as in some *Russulæ*.

In woody places among oak and holly. Uncommon.

Spores 8 × 10 mk. *W.G.S.* From the figure of Saunders and Smith the volva appears to be connate with the stem, and the free border is irregularly torn. Name—*adnatus*, adnate, of the gills. *Saund. & Sm. t.* 20. *C. Hbk. n.* 3. *Fr. Hym. Eur. p.* 28. *C. Illust. Pl.* 35.

Lepiota.

Subgenus II. **LEPIOTA** (λεπίς, a scale) Fr. Syst. Myc. i. p. 19. Hymenophore distinct from the stem, universal veil concrete with the epidermis of the pileus. Gills free, often remote, not sinuate or decurrent. With one exception, *growing on the ground; several occur in hothouses under forms departing from the type. Fr. Hym. Eur. p.* 29.

III. Agaricus (Lepiota) procerus. One-fifth natural size.

An easily defined subgenus from the concrete veil and free gills. The stem is often inserted in a cup or socket. The larger species are edible.

A. Epidermis dry.

* Proceri (from the typical species of the group, *A. procerus*). *Ring proper, movable, distinct from the volva.* The whole fungus when young enclosed in an entire

volva which is at length ruptured all round, and the lower part disappears in the bulb of the stem, while the calyptra, which is connate with the pileus, breaks up into scales. Stem not sheathed with the volva, as in the following group, encircled at the apex with a (broad, depressed, *Epicr.*) cartilaginous collar; hence the gills are free and remote. Edible. Lepiota.

** Clypeolarii (*A. clypeolarius*). *Ring proper, fixed, homogeneous with the universal veil which clothes the stem.* The extended stem and pileus are from the first distinct; hence the former is clothed below the ring by the universal veil, and the latter has the cuticle torn into scales or flocci. There is a non-cartilaginous prominent collar encircling the top of the stem; hence the gills are commonly less remote than in the preceding group. Flesh soft. Odour and taste unpleasant, like those of radishes.

*** Annulosi. *Ring superior, fixed, somewhat persistent, universal veil adnate to the pileus.* Stem from the first extended. Collar wanting or similar in texture to the flesh of the pileus.

**** Granulosi (*A. granulosus*). *Universal veil sheathing the stem and at first extending continuously from the stem to the pileus, but ruptured at length and forming an inferior ring.* Pileus granulose or warty. Hymenophore less distinct from the stem than in the rest of the Lepiotæ.

***** Mesomorphi (*A. mesomorphus*). *Smaller, slender, stem fistulose, pileus dry, cuticle entire,* neither granulose nor torn as in Clypeolarii.

B. Cuticle viscous, continuous.

A. EPIDERMIS DRY.

* Proceri. *Ring proper, movable, &c.*

18. A. procerus Scop. **Pileus** 10–20 cent. (4–8 in.) and more broad, fleshy, at first ovato-acorn-shaped, then campanulate and flattening, with a broad, obtuse, prominent umbo, the continuous cuticle fuscous; otherwise the *cuticle is broken up into broad, thick, becoming plane, at length separating scales,* whence the whitish surface is variegated-fuscous; flesh very soft-cottony, tough, white, *unchangeable.* **Stem** a span long, 12 mm. (½ in.) thick, perfectly cylindrical with exception of the bulboso-inflated base, firm, somewhat cartilaginous, *variegated with adpressed fuscous scales,* deeply sunk at the apex in the cup of the pileus; with a definite internal tube, which is at first stuffed with lax spider-web fibrils. Ring quite distinct from the stem, continuous with the cuticle of the pileus when young (and adnexed at the apex of the stem, but there very thin), free when the pileus is expanded, with a tough cartilaginous swollen base, hence movable and persistent. **Gills** not only absolutely free, but *far remote from the stem with a broad, plano-depressed, cartilaginous collar,* crowded, ventricose, broader in front, soft, whitish, sometimes becoming fuscous at the edge.

The gills vary, whitish, light-yellowish, flesh-coloured, black-margined. Odour pleasant.

Lepiota.

In woods, chiefly fir, and pastures. Common. July–Oct.

Epidermis of pileus resembling brown shaggy leather. *M. J. B.* Spores sphæroid-ellipsoid or subellipsoid, 14–22 × 10–12 mk. *K.* 16–18 × 10–12 mk. *B.* 3 × 16 mk. *W. G. S.* Edible (*Clus. Esc. gen.* 18 *c.*); one of the most delicate species, although the flesh is slightly tough. It makes exceedingly good ketchup. Celebrated in Italy and France as an edible species, but reckoned by some to be inferior to the common mushroom (*A. campestris*). Name—*procerus*, tall. Known as the "parasol mushroom," from its shape and probably from the ring being movable like that of an umbrella-stick. *Scop. Carn. p.* 418. *Fr. Monogr.* i. *p.* 19. *Hym. Eur. p.* 29. *Sverig. ält. Sv. t.* 3. *Berk. Out. p.* 92. *C. Hbk. n.* 16. *Illust. Pl.* 21. *S. Mycol. Scot. n.* 14. *Schæff. t.* 22, 23. *Fl. Dan. t.* 772. *Curt. Lond. t.* 169. *Sow. t.* 190. *Badh. t.* 2. *Hussey* i. *t.* 88. *Bull. t.* 78, 583. *Krombh. t.* 24. *f.* 1-12. *Hartz. t.* 46. *Vivian t.* 8. *Vittad. t.* 24.

19. A. rachodes Vitt.—**Pileus** very fleshy, but very soft when full grown, globose then flattened or depressed, at first incrusted with a *thick*, *rigid*, even, very smooth, bay-brown, wholly continuous *cuticle*, which remains entire at the disc but otherwise *soon becomes elegantly reticulated with cracks;* these very *readily separate* into *persistent*, polygonal, concentric *scales*, which are revolute at the margin and attached to the surface with beautifully radiating fibres, the surface remaining coarsely fibrilloso-tomentose; flesh white, *immediately becoming saffron-red* when broken, easily separating from the apex of the distinct stem, which is encircled with a prominent collar. **Stem** stout, at the first marginato-bulbous; conical when young, then elongated, attenuated upwards, as much as a span long, very robust, 2.5 cent. (1 in.) thick, and more at the base, always even, and *without a trace of scales* or even of fibrils although the appearance is obsoletely silky, wholly whitish, hollow within, stuffed with spider-web threads, the walls remarkably and coarsely fibrous. Ring movable, adhering longer to the margin of the pileus than to the apex of the stem, hence rayed with fibres at the circumference, clothed beneath with one or two zones of scales. **Gills** *very remote*, lanceolate or ventricose at the middle, crowded, whitish, sometimes reddening.

The pileus is tomentose and whitish under the cuticle. The margin of the bulb quickly vanishes. The ring, like that of *A.* (*Psalliota*) *arvensis*, is as it were duplicate. Gregarious, 2-3 individuals often connate at the base. A variety occurs in hothouses.

In woods, chiefly fir, old thatch, &c. Frequent. Aug.–Nov.

Easily distinguished from *A. procerus* by its more globose pileus, by the deeper and softer covering, and by the *flesh becoming saffron-red*. Reckoned edible. Spores ovoid-ellipsoid, 10–12 × 6–7 mk. *K.*; 6 × 8 mk. *W. G. S.* Name—ῥάκος, a ragged, tattered garment. From the ragged covering of the pileus. *Vittad. Fung. mang. p.* 158. *t.* 20. *Fr. Monogr.* i. *p.* 20. *Hym. Eur. p.* 29. *Berk. Out. p.* 92. *t.* 3. *f.* 6. *C. Hbk. n.* 17. *Illust. Pl.* 22. *S. Mycol. Scot. n.* 15. *Hussey* ii. *t.* 38. *Price f.* 104.

* **A. rachodes puellaris** Fr.—A pretty form, wholly constant, departing from the typical form in being half the size, shining white, with the pileus floccoso-squamose. Lepiota.

In woods, &c., not uncommon. *Fr. Monogr.* ii. *p.* 285. *Hym. Eur. p.* 29. *B. & Br. n.* 1632.

20. A. excoriatus Schæff.—**Pileus** 7.5 cent. (3 in.) broad, sometimes of one colour whitish, sometimes brown at the disc, fleshy, soft, globose then expanded, at length becoming plane, gibbous rather than umbonate at the middle, *cuticle very thin, sometimes even, persistent, and slightly silky, sometimes* broken up into *minute squamules*, more or less peeled towards the margin; flesh soft, white, unchangeable. **Stem** about 7.5 cent. (3 in.) long, 8–10 mm. (4–5 lin.) thick, hollow, with spider-web threads within, wholly *equal* or only obsoletely bulbous (the bulb, when present, buried in the soil), even, rather smooth, quite *unspotted*, white. Ring movable. **Gills** free, but not very remote from the stem, soft, white.

Constantly smaller than *A. procerus* and *A. rachodes*, lower in stature, with the thin cuticle not so much torn. The stem is less cartilaginous than that of *A. procerus*, but remarkably distinct from the pileus. The ring is smaller, tougher, less movable, and here and there vanishing.

In woods, &c. Uncommon. May–Oct.

Edible; said to be better than its allies. According to Berkeley the taste is like that of *Marasmius oreades*. Spores sphæroid-ellipsoid, 14–16 × 9–11 mk. *K.*; 14×9 mk. *W.G.S.* Name—*ex*, and *corium*, skin. From the pileus being peeled towards the margin. *Schæff. t.* 18, 19. *Fr. Monogr.* i. *p.* 21. *Hym. Eur. p.* 30. *Sverig. ätl. Sv. t.* 18. *Berk. Out. p.* 92. *C. Hbk. n.* 18. *Illust. Pl.* 23. *S. Mycol. Scot. n.* 16. *Vivian t.* 49. *Vittad. Fung. mang. t.* 35. *Ventur. t.* 7. *Letell. t.* 610. *Krombh. t.* 24. *f.* 24–30.

21. A. gracilentus Krombh.—**Pileus** slightly fleshy, at the first ovate, then campanulate, and at length flattened, slightly umbonate or rather gibbous, with a *thin, closely adnate, fuscous cuticle*, which breaks up into broad, adpressed, persistent scales, so that *the whitish pileus* appears *fuscous-spotted;* flesh white, unchangeable. **Stem** 12.5–15 (5–6 in.) long, 8–10 mm. (4–5 lin.) thick, hollow, fibrillose with spider-web threads within, slightly bulbous, otherwise equal, *obsoletely scaly*, whitish. Ring very laxly woven, *floccose*, not only easily free, but also separating and *vanishing*. **Gills** remote, very broad, very crowded, whitish, often dingy at the edge, sometimes greenish.

Stature about that of *A. procerus*, but the stem is more slender, and the pileus smaller and thinner. The chief difference lies in the thin fugacious ring.

In pastures. Rare.

Lepiota.

Not poisonous, but rejected as food. Spores 11 × 8 mk. *W.G.S.* Name--*gracilis*, slender. *Krombh. t.* 24. *f.* 13, 14. *Fr. Monogr.* i. *p.* 21. *Hym. Eur. p.* 30. *Berk. Out. p.* 93. *C. Hbk. n.* 19. *Illust. Pl.* 28.

22. A. mastoideus Fr.—**Pileus** about 5 cent. (2 in.) broad, slightly fleshy, ovate then flattened, *remarkably breast-shaped with an acute umbo*, at the first continuous and becoming fuscous; the cuticle, however, is soon torn into *minute, thin or nipple-shaped, persistent scales*, making the pileus then whitish and variegated fuscous; flesh thin, soft, whitish. **Stem** 7.5 cent. (3 in.) long, 6–8 mm. (3–4 lin.) thick at the base, 4 mm. (2 lin.) thick at the apex, *almost equally attenuated from the base to the apex*, cartilaginous, tough and flexible, whitish, obsoletely squamulose but *not spotted* below the entire (not torn), movable ring, even above it. **Gills** very remote, lanceolate, very crowded, soft, pure white.

The ring is formed after the same type as that of preceding species. The gills are of the same type as those of *A. procerus*, with a cartilaginous collar in which the stem is sunk.

In woods. King's Cliffe, &c. Oct.

Edible, but so thin in flesh as to be worthless. Name—μαστός, breast, εἶδος, shape. Breast-shaped. *Fr. Monogr.* i. *p.* 22. *Hym. Eur. p.* 30. *Berk. Out.* p. 93. *Mag. Zool. & Bot.* i. *t.* 2. *f.* 1. *C. Hbk. n.* 50. *Illust. Pl.* 24. *Fl. Dan. t.* 2144. *Letell. t.* 610; *F.D.E.*

** Clypeolarii. *Ring proper, fixed, &c.*

23. A. Friesii Lasch. — **Pileus** ferruginous-fuscous, fleshy, soft, torn *into adpressed, tomentose scales*. **Stem** hollow, with a pith of a spider-web nature, somewhat bulbous, scaly; the superior ring pendulous, equal. **Gills** somewhat remote, linear, very crowded, branched.

Almost the stature of *A. procerus*, handsome, with a heavy odour.

On sawdust. King's Lynn.

Name—after Elias Fries. *Lasch Linn.* iii. *n.* 9. *Fr. Hym. Eur. p.* 31. *Monogr.* ii. *p.* 344.

* **A. acutesquamosus** Weinm.—**Pileus** as much as 10–12.5 cent. (4–5 in.) broad, pale ferruginous, fleshy, hemispherical then expanded, convex, very obtuse, the *cuticle adpressedly tomentose* and *sprinkled with minute, sharp-pointed, fuscous, easily separating warts*, which leave areolæ on the surface; then the surface itself splits open showing the white pileus, variegated with adnate warty patches, which are acute and squarrose at the disc, floccose, adpressed and paler towards the margin; flesh moderately thick, very white. **Stem** 7.5–10 cent. (3–4 in.) long, as much as 2.5 cent.

(1 in.) thick, *stout*, the somewhat bulbous base solid, otherwise hollow, stuffed with a lax spider-web pith, elastic, attenuated upwards, adpressedly fibrilloso-silky and white, but becoming ferruginous below with the fibrils, *adorned with areolated scales arranged spirally* from the remains of the universal veil. Ring large, white, at length becoming yellow, at first silky, continuous with the margin of the pileus, externally sprinkled, chiefly towards the margin, with vernicose patches of the exterior veil; then pendulous from the apex of the stem, membranaceous but very soft and very large, even, remaining adfixed, adhering by the silky down of the stem. **Gills** quite free from the stem, united by a collar encircling the stem, but very *approximate*, lanceolate, as much as 8 mm. (4 lin.) broad when full grown, very crowded, shining white. Lepiota.

The margin of the pileus when young is fimbriate, and occasionally appendiculate with the torn ring. The stem is thicker in proportion as it is shorter. The flesh is firmer than that of its allies. A most distinguished species; solitary or 2–3 individuals connate at the base. The open patches, left on the floccose ground of the pileus are almost after the type of *Lycoperdon gemmatum*. Somewhat inodorous. The pileus varies furfuraceous (*Krombh. t.* 29. *f.* 18–21.)

On soil in gardens and hotbeds. Uncommon. Sept.–Oct.

Spores 8–10 × 2–3 mk. *B.;* 3 × 6 mk. *W.G.S.* Name — *asutus*, sharp, *squama*, a scale. *Weinm. Syll.* i. *p.* 70. *Fr. Monogr.* i. *p.* 22. *Hym. Eur. p.* 31. *Berk. Out. p.* 93. *C. Hbk. n.* 21. *Illust. Pl.* 14. *S. Mycol. Scot. n.* 17. *Hussey* ii. *t.* 5. A. Mariæ *Klotsch Linn.* vii. *t.* 8. *Berk. Eng. Fl.* v. *p.* 4.

24. A. Badhami B. & Br.—**Pileus** 5-10 cent. (2–4 in.) broad, at first campanulate, obtuse, at length expanded, often depressed and umbonate, hispid, with minute, velvety, fuliginous scales, but sometimes entirely fuliginous without any distinct scales. **Stem** 5-7.5 cent. (2–3 in.) high, 6–12 mm. (¼–½ in.) inch or more thick, attenuated above, bulbous below, white, silky or floccoso-scaly, stuffed with cottony threads. Ring firm, erect and deflexed, more or less movable beneath, frequently clothed with dingy granules. **Gills** truly remote, ventricose, rather broad.

The whole plant when wounded becomes saffron-blood-red. Flesh tolerably compact. Resembling some forms of *A. clypeolarius*, but more robust. In some specimens the surface is decidedly scaly, in others simply velvety. The margin often projects beyond the gills, and is delicately silky and fimbriated. The stem, though bulbous, is by no means marginate. Smell rather disagreeable.

Under yew-trees. Apethorpe, &c. Sept.

Spores elliptic, 8 mk. *B. & Br.;* 6 × 3 mk. *W.G.S.* Name — after C. D. Badham, M.D. *B. & Br. n.* 664. *Berk. Out. p.* 93. *C. Hbk. n.* 23. *Illust. Pl.* 25. *Saund. & Sm. t.* 35. *f.* 2. *Fr. Hym. Eur. p.* 31.

Lepiota.

25. **A. meleagris** Sow.—**Pileus** about 5 cent. (2 in.) broad, fawn-coloured, fleshy, thin, at first ovate or hemispherical, very obtuse, minutely tomentose and warty, then expanded, somewhat campanulate, dotted with minute brown scales; *flesh turning red.* **Stem** *stuffed* with cottony threads, fusiform then nearly equal, of the same colour, here and there tinged with yellow, most minutely squamulose. Ring soon ruptured, very fugacious. **Gills** remote, distant, rounded behind, sometimes connected, white.

The whole plant changes in drying, or when cut, to a beautiful red. Closely allied to *A. clypeolarius.* Two forms occur which run into each other, the less typical of which has a campanulate obtuse pileus, and is of a darker tint when dry. In the variety the gills are sometimes lemon-coloured.

In hothouses on spent tan. Rare. May–Oct.

Spores 5×8 mk. *W.P.* Name — *meleagris,* a guinea-fowl. From the spotting. *Sow. t.* 171. *B. & Br. n.* 986*. *C. Hbk. n.* 24. *Illust. Pl.* 26. *S. Mycol. Scot. n.* 18. *Fr. Hym. Eur. p.* 31. Tricholoma *Berk. Out. p.* 101.

26. **A. biornatus** B. & Br. — **Pileus** 5 cent. (2 in.) broad, fleshy, convex, broadly campanulate, white, silky, sprinkled with minute dark-red punctiform scales (without striæ); flesh white, or slightly tinged with yellow. **Stem** 10 cent. (4 in.) high, 8 mm. (⅓ in.) thick, stuffed then hollow, oblique, attenuated at the base, rooting, spotted with red, reddish within. Ring descending, spotted at the edge like the pileus. **Gills** approximate, ventricose, 4 mm. (2 lin.) broad, white.

The whole plant becomes dark in drying.

In melon-frame. Arthingworth, 1876. July.

Spores 10×8 mk. *B. & Br.* Name—*bis,* twice, *orno,* to adorn. From the twofold colouring. *B. & Br. Journ. Linn. Soc.* xi. *p.* 502. *Ann. Nat. Hist. n.* 1633. *C. Illust. Pl.* 37.

27. **A. hispidus** Lasch. — **Pileus** 5–7.5 cent. (2–3 in.) broad, umber-fuscous, fleshy, soft, hemispherical then expanded, umbonate, *at the very first tomentose* from the universal veil, the down separating into papillæ or scales; flesh thin, white, unchangeable. **Stem** about 7.5 cent. (3 in.) long, 6–10 mm. (3–5 lin.) thick, tubular, but stuffed with fibrils internally, attenuated upwards, *densely woolly-scaly* from the universal veil clothing the stem as far as the superior, membranaceous, reflexed ring, fuscous. **Gills** free, approximate, with a prominent collar encircling the stem, crowded, ventricose, simple, white.

The pileus is not at first evened and continuous as in *A. clypeolarius,* &c. The down separates into scales almost like those of *A. acutesquamosus.* Not becoming red when broken like *A. meleagris,* &c. Odour somewhat of radish.

In woods, chiefly among pine-leaves. Rare. Aug.–Oct. Lepiota.

Smell like that of *Lactarius theiogalus*, approaching that of *A. cristatus*. *B. & Br.* Name—*hispidus*, rough. *Lasch. n.* 407. *Fr. Monogr.* i. *p.* 24. *Hym. Eur. p.* 32. *Icon. t.* 14. *f.* 1. *B. & Br. n.* 901. *C. Hbk. n.* 22. *Illust. Pl.* 27. *S. Mycol. Scot. n.* 19.

28. **A. clypeolarius** Bull.—Typical form. **Pileus** 5–7.5 cent. (2–3 in.) broad, beautiful tan-colour, slightly fleshy, *at first* acorn-shaped, even, becoming tawny at the apex, *wholly continuous*, though silky-soft, slightly *crusted*, with thick marginal down, which then separates into a superior ring adhering to the stem; then campanulate and flattened, with a tawny umbo, otherwise wholly broken up into floccose scales, very soft; flesh floccoso-soft, 4 mm. (2 lin.) thick, white, watery when moist. **Stem** about 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed with a distinct floccose-spider-web pith, soon hollow, *equal* or slightly thickened at the base, soft, fragile; at first *continuously scaly-squarrose from the yellowish veil being broken up into patches;* the floccose scales easily separate, so that the stem is somewhat naked, fibrillose, pallid, striate at the apex above the fugacious ring. **Gills** free, *approximate*, 6 mm. (3 lin.) broad, soft, crowded, shining white or becoming yellow.

Odour weak, often scarcely any. It is so very changeable, that it is scarcely possible to include all its forms under a common description. The scales on the pileus vary yellow, rufescent, ferruginous, and the gills white, yellowish. In shady pine-woods a form occurs with white-floccose-woolly stem, pileus wholly woolly with exception of the continuous disc, sometimes yellowish, sometimes becoming pale. In marshy thickets there is a form with the squamulose pileus rose-coloured. In very shady beech-wood, on rotten wet leaves, a more slender form occurs, with a floccoso-squamulose stem, and white pileus elegantly variegated with concentric fuscous scales. Var. *pratensis* Bull. is floccose only below the fibrillose ring. There are many forms in hothouses departing from the type, as *Fl. Dan. t.* 1732.

In woods, shaded borders, and hothouses. Uncommon. Oct.–Nov.

Spores oblong, uniguttate, 16–20 × 5–6 mk. *K.;* 18–20 × 4–5 mk. *B.* Name —*clypeus*, a shield. *Bull. t.* 405, 506. *f.* 2. *Fr. Monogr.* i. *p.* 24. *Hym. Eur. p.* 32. *Icon. t.* 14. *f.* 2. *Berk. Out. p.* 94. *C. Hbk. n.* 25. *Illust. Pl.* 38. *S. Mycol. Scot. n.* 20. *Tratt. Austr. t.* 26.

29. **A. metulæsporus** B. & Br.—**Pileus** 2.5 cent. (1 in.) broad, white, rather fleshy, campanulate, obtuse, sulcate, with small pallid scales, margin appendiculate. **Stem** 5–12.5 cent. (2–5 in.) long, 2 mm. (1 lin.) thick, stuffed, somewhat equal or slightly clavate, pallid, lemon-coloured within. **Gills** approximate, ventricose, nearly 4 mm. (2 lin.) broad, white.

In external characters it approaches *A. clypeolarius*, but it is at once distinguished by the length of its spores. Mycelium thread-like.

Lepiota.

Among moss in fir wood. Rare. Oct.

Spores nine-pin-shaped when seen from the back, obliquely clavate from the side. 15 mk. *B. & Br.*; 15-20×4-6, *W.P.* Name — *metula*, an obelisk. From the shape of the spores. *B. & Br. Ceylon Fungi, Linn. Journ.* xi. *p.* 512. *Ann. Nat. Hist. n.* 1182. *t.* 18. *f.* 5 spores. *Fr. Hym. Eur. p.* 32.

30. A. cristatus A. & S.—**Pileus** 2.5–4 cent. (1–1½ in.) sometimes 7.5 cent. (3 in.) broad, whitish, slightly fleshy, campanulate, then expanded and umbonate, dry, *smooth, but the cuticle separating into darker granulose squamules* on the whitish ground; flesh thin, white. **Stem** 4 cent. (1½ in.) long, 3 mm. (1½ lin.) rarely more thick, fistulose, equal, fragile, silky-fibrillose, *not scaly*, silvery-white or rufescent. Ring continuous with the universal scanty veil, hence it appears inferior, at first erect-spreading, then torn. Gills free, *remote*, very crowded, at length plane, shining white.

It does not vary much except in the colour of the squamules on the pileus. Smaller and firmer than *A. clypeolarius*, with a strong odour of radish.

In fields, lawns, gardens, &c. Common. Aug.–Nov.

Disc often fuscous-reddish. Spores ellipsoid, 7-8×4-5 mk. *K.*; 6-8×2-3 *B.* Name—*crista*, a tuft, crest. *Alb. & Schw. p.* 145. *Fr. Monogr.* i. *p.* 25. *Hym. Eur. p.* 32. *Berk. Out. p.* 94. *t.* 3. *f.* 7. *C. Hbk. n.* 26. *Illust. Pl.* 29. *S. Mycol. Scot. n.* 21. *Grev. t.* 176. *Hussey* i. *t.* 48. *Price f.* 105. *Krombh. t.* 25. *f.* 26-30. A. subantiquatus *Batsch f.* 205.

31. A. ermineus Fr.—**Pileus** 5–6 cent. (2–2¼ in.) broad, white, slightly fleshy, campanulate then soon flattened, only a little gibbous at the prominent, even, deeper-coloured disc, dry, *smooth and becoming even*, then *silky-fibrillose towards the margin*; flesh soft, white. **Stem** 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose, *equal*, very fragile, dry, *somewhat fibrillose*, the membranaceous ring at length torn and fugacious. **Gills** free, but *reaching the stem*, by no means remote, very obtuse at both ends, somewhat crowded, 6 mm. (3 lin.) broad, shining white.

Somewhat gregarious, very fragile, inodorous, with the taste of radish.

In grassy places in woods, &c. Coed Coch, &c. Nov.

Spores pruniform, guttate, granular, 11–12 mk. *Q.* Name—*ermine*, from its soft white appearance. *Fr. Monogr.* i. *p.* 26. *Hym. Eur. p.* 33. *Sv. Bot. t.* 596. *f.* 1. *B. & Br. n.* 1184. *S. Mycol. Scot. Supp. Scot. Nat.* vi. *p.* 213. *C. Illust. Pl.* 40.

*** Annulosi. *Ring superior, fixed, &c.*

32. A. Vittadinii Fr.—**Pileus** whitish, fleshy, convexo-plane, obtuse, covered over with *warty*, *dense*, *pointed* scales. **Stem**

solid, stout, cylindrical, with *many concentric* scaly-squarrose *zones*. Ring superior, large. **Gills** free, ventricose, thick, becoming green. Lepiota.

Very handsome, large, robust. Intermediate between *Amanita* and *Lepiota*.

In groves. Rare.

Poisonous. Name—after Vittadini. *Fr. Hym. Eur. p.* 33. *Berk. Out. p.* 94. *C. Hbk. n.* 27. *Illust. Pl.* 36. *Hussey* i. *t.* 85. Amanita Vittadini *Morett. Bot. Ital. t.* 1. *Vittad. Aman. t.* 1. *Krombh. t.* 27.

33. A. holosericeus Fr.—**Pileus** 7.5 cent. (3 in.) and more broad, whitish or clay-white, *fleshy*, soft, *convex then expanded*, rather plane, obtuse, *floccoso-silky*, somewhat fibrillose, *becoming even*, fragile, disc by no means gibbous, and wholly of the same colour; margin involute when young; flesh soft, white. **Stem** 6–10 cent. (2½–4 in.) long, 12 mm. (½ in.) and more thick, *solid*, bulbous and not rooted at the base, soft, fragile, silky-fibrillose, whitish. Ring superior, membranaceous, large, soft, pendulous, the margin again ascending. **Gills** wholly free, broad, ventricose, crowded, becoming pale-white.

A species well marked from all others. Inodorous.

On soil in flower-beds. Staplehurst, Kent.

Spores 6×9 mk. *W.G.S.* Name—ὅλος, entire, σηρικός, silken. Wholly-silky. *Fr. Monogr.* i. *p.* 26. *Hym. Eur. p.* 34. *C. Hbk. n.* 28. *Illust. Pl.* 41. *Saund. & Sm. t.* 23. *f.* 1.

34. A. naucinus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, white, the disc of the same colour, fleshy, soft, gibbous or obtusely umbonate when flattened, even, *the thin cuticle splitting up into granules*. **Stem** 4–7.5 cent (1½–3 in.) long, stuffed, at length *somewhat hollow*, but without a definite tube, *attenuated upwards* from the thickened base, fibrillose, unspotted, white. Ring *superior*, tender, but persistent, *adhering to the stem*, at length reflexed. **Gills** free, approximate, crowded, ventricose, soft, white.

There is a prominent collar, as in the *Clypeolarii*, embracing the stem. Stature and appearance of *A. excoriatus*, but commonly smaller, the superior ring adfixed, &c. *A. leucothites* Vittad. *Fung. mang. t.* 40 with reddening gills seems a variety of this.

In fields. Rare.

Sometimes delicate tan, the gills assuming a dirty-pink hue. The large white spores are very characteristic. It may be confounded very easily with *A. cretaceus*, *M. F. B.* Edible; taste mild, pleasant. Name—*naucum* (or *nucinus*, *nux*), a nut-shell. *Fr. Monogr.* i. *p.* 27. *Hym. Eur. p.* 34. *Berk. Out. p.* 94. *C. Hbk. n.* 29. *Illust. Pl.* 15. *Vent. t.* 48. *f.* 6. A. sphærosporus *Krombh. t.* 24. *f.* 20-23.

Lepiota.

35. **A. cepæstipes** Sow.—**Pileus** 2.5 cent. (1 in.) broad, when campanulate often higher, white or yellow, rarely becoming fuscous, *somewhat membranaceous*, slightly fleshy only at the disc, at the first obtusely conical then hood-shaped, soon campanulate, umbonate, *clothed with delicate, plumose, separating flocci*. **Stem** at first short, then elongated, 7.5–12.5 cent. (3–5 in.) long, about 6 mm. (3 lin.) thick at the base, scarcely exceeding 2 mm. (1 lin.) at the apex, fistulose, at the first stuffed with spider-web threads, *attenuated from the bulbous base, clothed with flocci which may be rubbed off*. Ring separating-free, fugacious. **Gills** free, attenuated at both ends, *at length remote* (but distinct without a cartilaginous collar), very crowded, 4 mm. (2 lin.) broad, white.

Commonly in a dense band. The flocci on the pileus are the remains of the universal floccose veil. Substance very soft and delicate. From the entire nature and covering of the pileus, it is like a *Coprinus* drying up. According to Sowerby bright sulphur-yellow.

On tan and leaves in hothouses. Uncommon. Aug.–Sept.

Fine specimens of the white form, exactly according with Bulliard's *A. cretaceus* have been gathered, *B. & Br.* Spores 8 × 4 mk. *W.G.S.*; var. cretaceus, 5 × 7 mk. *W.P.* Name—*cepa*, onion, *stipes*, stem. *Sow. t.* 2. *Fr. Monogr.* i. *p.* 27. *Hym. Eur. p.* 35. *Berk. Out. p.* 95. *B. & Br. n.* 1500*. *C. Hbk. n.* 30. *Illust. Pl.* 5. *S. Mycol. Scot. n.* 22. Var. A. A. cretaceus *Bull. t.* 374. *Grev. t.* 333. *Fl. Dan. t.* 1798 (diminutive). Var. B. A. luteus (*Bolt. t.* 50?) *Wither.* iv. *p.* 233. A. flos sulphuris *Schnitz. ap. Sturm* 31. *t.* 1.

36. **A. licmophorus** B. & Br.—**Pileus** 2.5 cent. (1 in.) broad, lemon-yellow, membranaceous, plane, depressed, deeply sulcate up to the central disc, margin crenate. **Stem** 9 cent. (3½ in.) long, fistulose, slender, attenuated upwards, 2 mm. (1 lin.) thick in the centre, lemon-yellow, tomentose at the base; ring about half-way up. **Gills** remote, slightly arched, distant, interstices veined, shining white.

Occasionally in our hothouses, never in the open air.

On the ground. Sept.

Spores 12 mk. long, *B. & Br.* Name—λικμός, a winnowing fan, φέρω, to bear. From the sulcate pileus. B. & Br. Linn. Soc. Journ. xi. p. 500. n. 1989*.

**** Granulosi. *Universal veil sheathing, &c.*

37. **A. carcharias** Pers.—**Pileus** *flesh-coloured*, fleshy, convex then plane, umbonate, granulose. **Stem** stuffed then hollow, somewhat bulbous, squamulose, of the same colour as the pileus. **Gills** *adnexed*, shining white.

In grassy pine wood. Frequent. Sept. Lepiota.

Taste bitter according to Persoon, nauseous according to Fries. Spores sphæroid or subsphæroid, 3-4 or 4×3 mk. *K.*; 2-4×2-3 mk. *B.* Name —καρχαρίας, dog-fish or shark, sharp-toothed. Probably from the skin. *Pers. Syn. p.* 263. *Ic. pict. t.* 5. *f.* 1-3. *Fr. Hym. Eur. p.* 36. *S. Mycol. Scot. n.* 23. *C. Illust. Pl.* 42. *Brign. Neap. t.* 27. *f.* 4. A. ramentaceus *Krombh. t.* 25. *f.* 21-25. Var. alba. A. cristatus *Hartz. t.* 44. *f.* 2.

38. **A. cinnabarinus** A. & S.—**Pileus** 5–7.5 cent. (2–3 in.) broad, persistently *cinnabar-colour*, fleshy, soon flattened, obtuse, granuloso-furfuraceous, fimbriate at the margin; flesh pallid. **Stem** stuffed, somewhat bulbous, red-scaly below the inferior ring. **Gills** *free*, lanceolate, white.

Taste mild.

In fir wood. Rare. New Pitsligo, 1873. Sept.

Easily identified by its beautiful shape and splendid colour. Name—*cinnabaris*, dragon's blood. From the colour. A. granulosus var. cinnabarinus *Alb. & Schw. p.* 147. *Fr. Hym. Eur. p.* 36. *Monogr.* i. *p.* 29. *B. & Br. n.* 1402. *S. Mycol. Scot. n.* 24.

***A. Terreii** B. & Br.—**Pileus** 2.5–5 cent. (1–2 in.) broad, bright tawny, somewhat hemispherical, pulverulent, roughened with minute warts. **Stem** somewhat equal, often cylindrical, adorned below the ring with furfuraceous scales of the same colour as the pileus. Ring at length torn into fragments. **Gills** remote, narrow, white, not branched.

It approaches *A. granulosus* on one side and *A. acutesquamosus* on the other, but is nearer to the latter than the former. The spores of *A. granulosus* are slightly larger, those of *A. acutesquamosus* are rather longer, and at the same time narrower.

On sandy ground. Forres.

Gills separating from the stem. Taste insipid. Spores 5×4 mk. *B. & Br.*; 2×3 mk. *W.G.S.* Name—after Michael Terry. *B. & Br. n.* 1183. *Saund. & Sm. t.* 35. *f.* 1-5. *S. Mycol. Scot.* under *n.* 24.

39. **A. granulosus** Batsch.—**Pileus** 5 cent. (2 in.) broad, ferruginous or brown-rufous *becoming pale-hoary when dry*, fleshy, convex then flattened, obtusely umbonate, furfuraceo-granular, here and there rugoso-plicate; flesh reddish white. **Stem** 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed-hollow, somewhat equal, minutely squamulose. **Gills** *slightly adnexed*, white.

Singular among *Lepiotæ*. The *covering*, which is *scaly on the stem* as far as the ring, but *granulose on the pileus*, represents a universal veil, at the first wholly continuous. The colour of the stem is more rarely violaceous.

In woods and open grassy places. Very common. July–Nov.

Lepiota. The stem is of the same colour as the pileus as far as the ring. The wrinkles on the pileus often radiate beautifully from the centre about half-way across. Spores 5–6×3 mk. *B.*; 3×4 mk. *W.G.S.* Name—*granosus*, full of grains. Covered with small grains. *Batsch t.* 6. *f.* 24. *Fr. Hym. Eur. p.* 36. *Monogr.* i. *p.* 28. *Berk. Out. p.* 95. *C. Hbk. n.* 31. *Illust. Pl.* 18. *S. Mycol. Scot. n.* 25. *Hartz. t.* 44. *f.* 1.

Var. rufescens, a curious form, quite pure white at first, then partially turning red, and in drying acquiring everywhere a rufous tint. Bristol. *B. & Br. n.* 1834.

40. A. amianthinus Scop.—**Pileus** *ochraceous*, somewhat fleshy, convex then plane, somewhat umbonate, furfuraceo-granulose; *flesh yellow.* **Stem** equal, slender, squamulose. Ring fugacious. **Gills** *adnate*, crowded, white then light-yellowish.

Smaller and thinner than *A. granulosus*, &c., from which it is distinguished by the adnate gills and yellow flesh especially of the stem.

In woods. Uncommon. Aug.

Name—ἀμίαντος, undefiled. Unspotted. *Scop. Carn.* ii. *p.* 434. *Fr. Hym. Eur. p.* 37. *Monogr.* i. *p.* 29. *S. Mycol. Scot. n.* 26. *C. Illust. Pl.* 213. A. flavofloccosus *Batsch f.* 97. A. croceus *Bolt. t.* 51. *f.* 2. *Sow. t.* 19. A. ochraceus *Bull. t.* 362, 530. A. muricatus *Fl. Dan. t.* 1015. A. granulosus var. *Alb. & Schw. Grev. t.* 104. *Hussey* i. *t.* 45. *Hartz. t.* 4. *f.* 2. *Krombh. t.* 1. *f.* 12. *Hoffm. t.* 13. *f.* 1.

Var. Broadwoodiæ B. & Br.—**Pileus** yellow, hemispherical, delicately tomentose, margin inflexed. **Stem** equal and as well as the ring furfuraceous with squamules. **Gills** adnate, now and then decurrent, shining white.

A very distinct variety, if not species. *B. & Br.* Lyne, Sussex. Name—after Miss S. Broadwood. *B. & Br. n.* 1730*.

41. A. polystictus Berk.—**Pileus** 4 cent. (1½ in.) broad, expanded, not at all campanulate, broadly and obtusely umbonate; flesh thick in the centre, firm and tough, the *epidermis* broken into minute flat scales of a rich red-brown. **Stem** 2.5 cent. (1 in.) long, 9 mm. (⅜ in.) thick in the middle, hollow, stuffed with cottony threads, attenuated at the base. **Gills** quite free, unequal, rounded before and behind, broad, ventricose, crowded, white with a slight yellowish tinge.

Ring fugacious, attached in minute portions to the edge of the pileus. The stem is divided into two distinct portions; the upper one silky of a pinkish hue, the lower scaly like the pileus, but the scales browner; furnished with many branched fibrous roots. Inodorous and insipid.

In grassy places. Uncommon. Autumn.

Spores 3×4 mk. *W.G.S.*; 3×5 mk. *W.P.* Name—πολύς, many, στικτός, spotted. *Berk. Eng. Fl.* v. *p.* 9. *Out. p.* 95. *C. Hbk. n.* 32. *Illust. Pl.* 30. *S. Mycol. Scot. n.* 27. *Saund. & Sm. t.* 23. *f.* 2. *Fr. Hym. Eur. p.* 37.

***** Mesomorphi. *Smaller, slender, &c.* Lepiota.

42. A. sistratus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad when flattened, whitish, often darker at the disc, turning light-yellowish or flesh-colour, slightly fleshy, campanulate, then expanded and obsoletely umbonate, *pruinate with shining atoms;* flesh thin, soft, fragile, whitish. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, *fistulose,* scarcely stuffed within with lax spider-web fibrils, equal, *silky fibrillose and pruinate,* white. Ring fibrillose, torn, *appendiculate round the margin of the pileus,* very fugacious. **Gills** free, but reaching the stem, crowded, 4 mm. (2 lin.) broad, white.

Thin, delicate, fragile. Nearest to *A. mesomorphus* Bull. in natural affinity.

On sandy ground. Forres.

Remarkable for the filamentous ring. *B. & Br.* Name—*sistrum,* a rattle used in the rites of Isis. From some fancied resemblance in form. *Fr. Monogr.* i. *p.* 30. *Hym. Eur. p.* 37. *Icon. t.* 15. *f.* 3. *B. & Br. n.* 1185. *S. Mycol. Scot. n.* 28. *C. Illust. Pl.* 85.

43. A. seminudus Lasch.—**Pileus** whitish or flesh-colour, slightly fleshy, campanulato-expanded, umbonate, *floccoso-mealy,* at length naked, appendiculate at the margin with the torn veil. **Stem** fistulose, thin, *mealy.* **Gills** reaching the stem, thin, white.

Very thin, delicate.

In woods. King's Lynn, &c.

Spores 4 × 2 mk. *B. & Br.* Name—*semi,* half, *nudus,* naked. From the stem remaining mealy while the pileus becomes naked. *Lasch. Linn. n.* 17. *Fr. Hym. Eur. p.* 38. *B. & Br. n.* 1634, 1836. *C. Illust. Pl.* 19. *a.*

44. A. Bucknalli B. & Br.—**Pileus** nearly 2.5 (1 in.) broad, white, sprinkled with lilac dust, campanulate then convex. **Stem** 7.5 cent. (3 in.) long, dilated at the base, sprinkled downwards with lilac dust. **Gills** scarcely reaching the margin, white.

Smell strong of gas-tar.

On the ground. Bristol.

Spores 8 × 3 mk. *B. & Br.* Name—after Cedric Bucknall. *B. & Br. n.* 1836. *C. Illust. Pl.* 19. *b.*

45. A. mesomorphus Bull.—**Pileus** reaching 2.5 cent. (1 in.) broad, generally less, becoming yellow or whitish, slightly fleshy, very thin, campanulate then expanded, naked, *dry, even, smooth.* **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, fistulose, slightly attenuated upwards, *even, smooth,* of the same colour as

Lepiota. the pileus. Ring continuous with the cuticle of the pileus and stem, at first entire, spreading. **Gills** free, crowded, ventricose, white.

On the ground in woods. Hereford, &c. Autumn.

The English plant agrees in everything with that of Bulliard, except in the less persistent ring, which, however, is sometimes attached to the stem, sometimes to the edge of the pileus. *B. & Br.* Name—μέσος, middle, μορφή, form. Intermediate in form. *Bull. t.* 506. *f.* 1. *Fr. Monogr.* i. *p.* 30. *Hym. Eur. p.* 38. *B. & Br. n.* 1731. *C. Illust. Pl.* 85. B.

B. CUTICLE OF PILEUS VISCOUS, CONTINUOUS.

46. A. medullatus Fr.—**Pileus** 4–6 cent. (1½–2½ in.) broad, white, varying with the disc grey, slightly fleshy, convexo-plane, umbonate, even, smooth, *viscous*, soft; flesh soft, watery. **Stem** about 7.5 cent. (3 in.) long, 6 mm. (3 lin.) thick, hollow, the thick exterior coat easily separable from the interior, distinct, firm, at length fistulose tube, equal, fragile, *dry*, *silky* and squamulose below the veil, striate at the apex. Ring *incomplete*, becoming torn, commonly *appendiculate* at the margin of the pileus which hence appears as if toothed-*fimbriate*, scarcely prominent on the stem. **Gills** quite free, broader in front, ventricose, crowded, plane, shining white.

Odour of radish. Flesh almost that of *A. clypeolarius*.

In fir wood. Rare. Glamis, 1874. Oct.

Easily distinguished by the internal separable tube of the stem. Name—*medulla*, pith. From the pith-like centre of the stem. *Fr. Monogr.* i. *p.* 32. *Hym. Eur. p.* 38. *Icon. t.* 16. *f.* 2. *B. & Br. n.* 1732. *S. Mycol. Scot. n.* 29. *C. Illust.* 44.

47. A. gloiodermus Fr.—**Pileus** 4 cent. (1½ in.) broad, or little more, brownish-red, slightly fleshy, *campanulate then convex*, obtuse or broadly gibbous, even, *smooth, smeared with thin gluten;* flesh soft, white. **Stem** about 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed with spider-web threads*, equal, *dry*, soft, whitish, *externally floccoso-scaly as far as the incomplete torn ring*, naked, however, above it, whitish or rufescent. **Gills** free, approximate, ventricose, broad, crowded, shining white, not spotted.

Like *A. delicatus* it holds a middle place between *mesomorphi* and the typical species of this division (*B*), for the pileus is viscous, but the stem dry and clothed with flocci. It resembles *A. clypeolarius*, but the pileus is always continuous, smooth, viscous.

In thickets. Uncommon. July–Sept. Lepiota.

Name—γλοιός, clammy, δέρμα, skin. *Fr. Monogr.* i. *p.* 31. *Hym. Eur. p.* 39. *Icon. t.* 15. *f.* 1. *Berk. Out. p.* 95. *B. & Br. n.* 785. *C. Hbk. n.* 33. *Illust. Pl.* 118. *S. Mycol. Scot. n.* 30.

48. A. delicatus Fr.—**Pileus** 1 cent. (½ in.) broad, rufescent or becoming yellow, slightly fleshy, convexo-plane, somewhat umbonate, even, *smooth, viscous*, in nowise granulose. **Stem** 2.5 cent. (1 in.) long, scarcely 2 mm. (1 lin.) thick not taking into account the densely *floccoso-scaly and tomentose* covering, *fistulose*, equal, dry, whitish. Ring entire, membranaceous, dry, densely floccoso-scaly. **Gills** free, crowded, thin, ventricose, shining white.

Very thin and delicate; stature that of *A. mesomorphus*, but very sufficiently distinct from it in the pileus being viscous and the stem clothed with flocci. A. *pallidus*, pileus becoming light-yellow or pale rose-colour. B. *vaporariorum*, pileus rufescent, ring more floccose and here and there incomplete. Var. B. approaches *A. gloiodermus*.

About old stumps. Powerscourt, Wicklow, 1867. Sept.

A stout form. Pileus hemispherical, obtuse, rivulose, viscid, smooth, pallid, 2.5 cent. (1 in.) across; stem 12 mm. (½ in.) high, 6 mm. (¼ in.) thick, transversely punctate, squamulose, stuffed with flocci, white above; veil floccose, slightly appendiculate; gills free, rounded behind, approximate, pallid. The veil is really double, floccose, covered with scaly particles. Taste like that of *Polyporus squamosus*. *B. & Br.* Name—*delicatus*, tender, delicate. *Fr. Monogr.* i. *p.* 31. *Hym. Eur. p.* 39. *Icon. t.* 15. *f.* 2. *B. & Br. n.* 1186. *C. Illust. Pl.* 118.

49. A. illinitus Fr.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, white, the umbo often becoming fuscous, slightly fleshy, smooth, *viscous*, soft, at length fragile, *slightly striate at the margin*. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed when young, *soon hollow*, equal, cylindrical, fragile, by no means floccose or scaly, but *besmeared with gluten, slippery*. **Gills** free, at length remote, crowded, soft, somewhat connected by veins, shining white.

The gluten of the stem is a species of veil, at the first continuous with the gluten of the pileus, but ruptured when the pileus is expanded, leaving upon the stem an obsolete not prominent ring, above which the stem is dry. Distinguished from all others by the glutinous stem. There is a clay-coloured or ochraceous variety with the pileus even, and the margin fimbriated.

In woods, &c. Penzance.

Spores sphæroid or subsphæroid, 4–6 mk. *K.* Name—*illino*, to smear over; illitus and illinitus, *smeared* with gluten. *Fr. Monogr.* i. *p.* 32. *Hym. Eur. p.* 39. *Icon. t.* 16. *f.* 1. *B. & Br. n.* 1990. *Hoffm. Ic. anal. t.* 13.

Lepiota.

50. Georginæ Smith.—**Pileus** 1–2.5 cent. (½–1 in.) broad, white, slightly fleshy, fragile, at first campanulate then expanded, covered with a minute, dense, viscid pruinosity, which, as well as the white flesh, instantly changes to crimson when touched; margin at length striate. **Stem** 2.5–5 cent. (1–2 in.) long, slightly attenuated upwards, also covered externally with minute, viscid pruinosity, changing to crimson when touched. Ring evanescent. **Gills** free, very thin, moderately distant, somewhat ventricose, white, the edge becoming crimson when touched.

On mosses in a cool fernery. Chelsea.

Spores 7×5 mk. *W.G.S.* Name — after Miss Georgina E. Johnstone. *Smith Seem. Journ. Bot.* ix. (1871), *p.* 1. *t.* 112. *Grevillea*, i. *p.* 55. *C. Illust. Pl.* 132.

Armillaria.

Subgenus III. **ARMILLARIA** (*armilla*, a ring). Fr. Syst. Myc. i. p. 26. Hymenophore continuous with the stem; universal veil wanting, partial one annular, sometimes only indicated by the scales which clothe the stem terminating in the form of a ring. *It brings together species which are separated from all the following Leucospori on account of the veil. On account of the disappearance of the universal veil the species of the fourth group of the Amanitæ are apt to be looked for here. Fr. Hym. Eur. p.* 40.

IV. Agaricus (*Armillaria*) *mellens.* One-third natural size.

There are three types; the first agreeing in every respect except the ringed stem with the Tricholomata, the second with the Clitocybæ and the third with the Collybiæ. Most of the species grow on the ground and are rare. Their qualities are doubtful.

* Tricholomata subannulata. *Gills sinuato-adnexed, stem fleshy, similar in substance to the pileus.*

** Clitocybæ annulatæ. *Gills attenuated behind, more or less decurrent without a sinus, stem solid.*

*** Collybiæ annulatæ. *Gills equal behind, stem externally somewhat cartilaginous.*

* Tricholomata subannulata. *Gills sinuato-adnexed, &c.*

51. A. bulbiger A. & S.—**Pileus** 7.5–10 cent. (3–4 in.) broad,

pale-yellowish-brick colour, paler at the margin, fleshy, not compact, convexo-flattened, obtuse, moist, smooth in itself, but here and there, and chiefly round the margin, squamuloso-fibrillose from the fragments of the veil, then naked; flesh whitish, soft, thin at the margin, wherefore the pileus is not broken into squamules. **Stem** 5–7.5 cent. (2–3 in.) long, almost 12 mm. (½ in.) thick, stuffed, rarely hollow, cylindrical, but *terminated at the base by a globose marginate bulb;* the external cuticle pale, separable, at length marked longitudinally with blackish fibrils; texture longitudinally fibrous, but stuffed in the centre with a softer pith; externally and internally becoming pale white; the veil forms a cortina ending in a ring on the stem, adhering loosely, oblique, fugacious, white. **Gills** broadly emarginate somewhat crowded, at length distant, broad, becoming pale white, at length almost of the same colour as the pileus.

A very singular fungus, of a peculiar type, resembling in stature the *turbinate* or marginato-bulbous *Cortinarii*, but by no means allied to these. The form of the bulb is singular and constant, somewhat globose, depresso-concave above, with an annular margin. Odour and taste none.

In pine woods, &c. Hereford, 1875, &c. Oct.

Spores ovoid-ellipsoid or ellipsoid, 7–10×4–5 mk. *K.*; 5×7 mk. *W.P.* Name—*bulbus*, a bulb, *gero*, to carry. *Alb. & Schw. Consp. p.* 150. *Fr. Monogr.* i. *p.* 35. *Hym. Eur. p.* 40. *Icon. t.* 26. *f.* 2. *B. & Br. n.* 1501. *C. Illust. Pl.* 20. *S. Mycol. Scot. Supp. Scot. Nat.* 1855, *p.* 20. *Klotsch. Fl. Bor. t.* 373.

52. **A. focalis** Fr.—**Pileus** 10–12.5 cent. (4–5 in.) broad, fleshy, moderately compact at the disc, convex then flattened, obtuse, dry, slightly shining; *cuticle brick-tawny*, become even, but *silky-fibrillose;* flesh soft, 12 mm. (½ in.) thick at the disc, slightly tawny-pallid. **Stem** about 7.5 cent. (3 in.) long, almost 2.5 cent. (1 in.) thick, fleshy-solid, wholly fibrous within, elastic, *equal*, by no means bulbous, externally torn into fibrils, the medial ring oblique. **Gills** emarginato-free, crowded, narrow compared with the pileus, white, at length becoming pale.

On account of the flesh being soft like that of *A. bulbiger* the pileus is not broken into squamules. Variable.

On bare ground under old laurel-trees. Coed Coch.

Name—*focale*, a neckcloth. From the neckcloth-like ring. *Fr. Monogr.* i. *p.* 36. *Hym. Eur. p.* 40. *B. & Br. n.* 1837. *C. Illust. Pl.* 245.

Var. Goliath Fr.—**Pileus** 20 cent. (8 in.) broad, peculiarly fleshy, *very much thinned out towards the margin*, convexo-flattened, at length gibbous, revolute at the margin, moist, not

Armillaria. viscous, even and *bay-brown-rufescent* at the disc, *towards the margin torn into fibres*, paler, and, when the cuticle is torn, becoming white; flesh *spongy-soft*, elastic, white. **Stem** 20 cent. (8 in.) and more long, 2.5 cent. (1 in.) thick, fibrous-solid, commonly decumbent on account of the weight of the pileus, equal or attenuato-rooted at the base, externally and internally white, but *becoming tawny and with tawny fibrils downwards*. Ring medial, fugacious, often completely obliterated. **Gills** rounded-free, very broad, 12 mm. (½ in.) and more, very ventricose, rather thick, crowded, white.

The cuticle of the pileus and of the stem torn into fibrils, separable. In woods. *Fr. Monogr. p.* 37. *C. Illust. Pl.* 31.

53. **A. robustus** A. & S.—**Pileus** bay-brown-rufescent, very fleshy, convex then expanded, obtuse, dry, typically smooth, but scaly-fibrillose towards the margin; flesh hard, 2.5 cent. (1 in.) thick. **Stem** 2.5–5 cent. (1–2 in.) rarely more long, 2.5 cent. (1 in.) and more thick, solid, compact, attenuated at the base, fibrillose below the inferior, large, floccose, somewhat persistent ring, white-rufescent, white, however, and flocculose at the apex. **Gills** broadly emarginate, almost free, 12 mm. (½ in.) broad, crowded, whitish.

The stem is clothed up to the ring with the remains of a true though not a very conspicuous veil. The flesh of the stem is diffused into the pileus, as is usual when the pileus is continuous with the stem. Various in size and stature. It can be distinguished at first sight from *A. focalis*, &c., by the *substance of the entire plant being compact and hard*, and by the *stem being obese*, ventricose, and *attenuated downwards*. The genuine form *major* has a large ring, with the pileus often broken up into scales, and very broad gills. The form *minor* has an even pileus, with both ring and gills very narrow. *Krombh. t.* 25. *f.* 15-20.

In woods. Rare. Autumn.

Taste and smell exactly that of *Polyporus squamosus*. *B. & Br.* Spores ovoid-sphærical, 7 mk. *Q.* Name—*robustus*, stout, sturdy. *Alb. & Schw. Consp. p.* 147. *Fr. Monogr.* i. *p.* 37. *Hym. Eur. p.* 41. *B. & Br. n.* 1502. *C. Illust. Pl.* 33 (A. aurantius in error), 86, var. minor.

54. **A. ramentaceus** Bull.—**Pileus** 5–7.5 cent. (2–3 in.) broad, pallid, whitish, becoming yellow or rufescent, the scales and punctate disc darker, fleshy, convex then plane, obtuse or gibbous, at length depressed and revolute, dry, the *cuticle torn into adpressed floccose scales;* flesh somewhat compact, 12 mm. (½ in.) thick, white. **Stem** 2.5–5 (1–2 in.) long, rarely more, about 12 mm. (½ in.) thick, solid, firm, *unequal*, often thickened at the base, white, but *variegated with adpressed fuscous squamules below the*

ring. **Gills** emarginato-adnexed, separating-free, 6–8 mm. (3–4 lin.) broad, thin, at first crowded, *at length somewhat distant*, whitish, changing colour, *commonly becoming yellow*. Armillaria.

The veil, clothing the stem above the middle, terminates in a narrow, floccoso-woven, at length oblique and separating ring, above which the stem is pruinose. Besides the ring, scaly stem, paler pileus, &c., it is easily distinguished from *A. terreus* by the colour passing into light yellow. Odour unpleasant.

On the ground. Uncommon.

Name—*ramenta*, shavings, scales. *Bull. t.* 595. *f.* 3. *Fr. Monogr.* i. *p.* 40. *Hym. Eur. p.* 42. *Berk. Out. p.* 96. *C. Hbk. n.* 35. *Illust. Pl.* 71.

55. **A. hæmatites** B. & Br.—**Pileus** about 2.5 cent. (1 in.) broad, liver-colour, hemispherical, dry, slightly hispid. **Stem** 5 cent. (2 in.) long, of the same colour as the pileus, solid, thickened downwards, 6 mm. (¼ in.) thick at the base. Ring spongy, scaly beneath. **Gills** shortly decurrent.

Like *A. subcavus* it is analogous to *Lepiotæ*.

Among fir-leaves. Glamis, 1876. Nov.

Pileus red-liver colour, at first hemispherical then somewhat flattened. Gills rather broad, scarcely crowded. A very striking and beautiful species. Name —αἱματίτης, blood-like. Hæmatite, blood-stone, a kind of red-iron-ore. *B. & Br. n.* 1635. *S. Mycol. Scot. n.* 35. *C. Illust. Pl.* 45.

56. **A. constrictus** Fr.—White. **Pileus** 5 cent. (2 in.) broad, fleshy, flesh not thick but compact, convex then plane, obtuse, dry, smooth in itself, but when young *covered over with a thin, silky, separating veil, but never torn into scales;* margin involute and villous when young. **Stem** 5 cent. (2 in.) or less long, about 8 mm. (4 lin.) thick, *solid*, fleshy-fibrous, equal or thickened at the base, *fibrillose* or squamulose. Ring, which is *near the apex of the stem, narrow*, at length falling off, or adhering obliquely. **Gills** emarginate or rounded, sometimes adnexed, sometimes wholly free, *very crowded and narrow*, unequal.

Pileus becoming pale or fuscous with age. Firm, with odour of new meal. Not allied to any neighbouring species.

In pastures bleached by dung, &c. Rare. Sept.–Oct.

Assuming a very pale-yellow tint when bruised. *M. J.B.* Name—*constrictus*, compact. *Fr. Monogr.* i. *p.* 39. *Hym. Eur. p.* 42. *Icon. t.* 18. *f.* 1. *Berk. Out. p.* 96. *C. Hbk. n.* 34. *Illust. Pl.* 46. *Batt. t.* 7. *f.* B.

** Clitocybæ annulatæ. *Gills attenuated behind, &c.*

57. **A. melleus** Fl. Dan.—**Pileus** 7.5–15 cent. (3–6 in.) broad, often fuliginous when young, wrapped round with olivaceous

Armillaria. down, soon becoming pale, *striate at the margin, everywhere beset with fuscous-blackish*, sometimes paler *hairy squamules*, fleshy at the disc, continuous with the stem, otherwise *thin*, convex then flattened, and at length depressed in the centre. **Stem** stuffed then hollow, *elastic, externally rigid* and sulcate, *internally spongy*, floccose or rather naked below the ring, often light-yellow villous at the base. *Ring nearly apical, silky, swollen at the circumference*, sometimes however more scanty, in the form of a cortina, disappearing. **Gills** at first adnate, then *decurrent with a tooth, somewhat distant*, pallid, commonly whitish flesh-colour, at length rufescent, and *white-mealy with the abundant spores.*

Clay-colour in rainy weather; in dry weather pale but opaquely ochraceous or honey-colour. Stem becoming pale, when old often passing into fuliginous or olivaceous. Very variable in its dimensions. The more remarkable varieties are: (a) stem stout, very bulbous *Kalchbr.;* (b) Gills sulphur-coloured *Weinm.;* (c) Colour tawny *Gonn. & Rab.* iv. *t.* 3; (d) Colour becoming fuscous.

On and near stumps. Common. Aug.–Nov.

Solitary, gregarious or densely cæspitose. Spores sphæroid-ellipsoid, 9 × 6 mk. *K.;* 10 × 8 mk. *B.;* 9 × 5–6 mk. *W.G.S.* Edible but very tough. Frequently eaten in Europe. Persoon condemns it, and Greville quotes an instance in which Paulet tried its effect upon a dog, with a fatal result after twelve hours. Name—*mel*, honey. Honey-coloured. *Fl. Dan. t.* 1013. *Fr. Monogr.* i. *p.* 44. *Hym. Eur. p.* 44. *Berk. Out. p.* 96. *t.* 4. *f.* 1. *C. Hbk. n.* 36. *Illust. Pl.* 32. *S. Mycol. Scot. n.* 33. *Grev. t.* 332. *Price t.* 16, 32. *Badh.* i. *t.* 16. *f.* 3. ii. *t.* 9. *f.* 3. *Krombh. t.* 43. *f.* 2-6. *Vittad. Fung. mang. t.* 3. *Vivian t.* 51. *Fr. ätl. Sv. t.* 36. *Hoffm. Ic. t.* 21. *f.* 1. A. obscurus *Schæff. t.* 74. A. annularius *Bull. t.* 377, 540. *f.* 3. A. stipitis *Sow. t.* 101. A. mutabilis *Fl. Bat. t.* 824. A. laricinus *Bolt. t.* 19.? A. millus *Sow. t.* 184.?

58. A. subcavus Schum.—**Pileus** 5 cent. (2 in.) broad, white, umbo umber, somewhat membranaceous, convexo-plane, viscous, striate to the middle, the slightly fleshy disc umbonate. **Stem** 9 cent. (3½ in.) long, 6 mm. (3 lin.) thick, *fistulose upwards*, equal, *slightly dotted*, even above the inferior and torn ring, white. **Gills** plane, *decurrent*, white.

Slender. More allied to the glutinous *Lepiotæ* than to neighbouring species, but the gills are figured as decurrent.

On the ground. Cirencester, 1873. Nov.

Name—*sub*, and *cavus*, hollow. From the partially hollow stem. *Schum. Fl. Dan. t.* 1843. *Fr. Hym. Eur. p.* 46. *Monogr.* i. *p.* 45. *B. & Br. n.* 1403, entirely white.

*** Collybiæ annulatæ. *Gills equal behind, &c.*

59. A. mucidus Schrad.—**Pileus** commonly shining white, thin, *almost diaphanous*, hemispherical then expanded, obtuse,

more or less *radiato-wrinkled, smeared over with a thick tenacious gluten;* margin striate when thinner. **Stem** 4–7.5 cent. (1½–3 in.) long, 2–4 mm. (1–2 lin.) thick at the apex, *thickened at the base,* 8 mm. (4 lin.), *stuffed, thin, rigid,* curved-ascending, smooth, white, but fuliginous-scaly at the base when most perfectly developed. *Ring inserted at the apex of the stem, bent downwards and glued close to the stem, sulcate; the white border again erect, with a swollen and entire margin* which sometimes becomes fuscous. **Gills** *rounded behind,* obtuse, adhering to the stem and striato-decurrent, *distant,* broad, lax, mucid, always shining white. Armillaria.

Very variable in stature, from 2.5 cent. (1 in.) (when of this size the stem is almost equal) to as much as 15 cent. (6 in.) broad. The colour of the pileus varies grey, fuliginous, olivaceous. The gills sometimes become yellow, but only from disease. Sometimes solitary, sometimes a few are joined in a cæspitose manner at the base.

On beech. Frequent. Aug.–Nov.

Very beautiful, of an exquisite pellucid white. Tough and very sticky. Spores 14×17 mk. *W.G.S.* Name—*mucus,* slime. *Schrad. Spic. p.* 116. *Fr. Monogr.* i. *p.* 46. *Hym. Eur. p.* 46. *Berk. Out. p.* 96. *C. Hbk. n.* 37. *Illust. Pl.* 16. *S. Mycol. Scot. n.* 34. *Saund. & Sm. t.* 5. *Quel. t.* 2. *f.* 1. *Price t.* 14 *f.* 91. *Paul t.* 139, bis. A. nitidus *Fl. Dan. t.* 773. *Tratt. Austr. t.* 27. A. splendens *Fl. Dan. t.* 1130. *Hartz. t.* 35. Var. with olivaceous fuscous pileus=A. olivaceo-fuscus *Fl. Dan. t.* 1372.

Subgenus IV. **TRICHOLOMA** (θρὶξ, a hair, λῶμα, a fringe). Fr. Syst. Myc. i. p. 36. Veil obsolete or only consisting of flocci or fibrils which adhere to the margin of the pileus. Stem fleshy, not furnished with a bark. Hymenophore continuous with the stem, *gills sinuate behind. All growing on the ground, fleshy, never obconic or truly umbilicate. Fr. Hym. Eur. p.* 47. Tricholoma.

The *sinuate gills* distinguish this from all the other white-spored subgenera. None are known to be truly poisonous. A few, such as *A. saponaceus,* are suspicious.

V. Agaricus (*Tricholoma*) *saponaceus.* One-third natural size.

Series A.—Pileus viscous, fibrillose, scaly or pubescent, and not watery-moist or becoming even. Flesh not absorbing moisture nor hygrophanous. Stem fibrillose, as is also the universal veil, which is adnate (and scarcely distinctly conspicuous).

Tricholoma. I. Limacina (*limax*, a snail, slimy). *Pellicle of the pileus viscous when damp, innately fibrillose or squamulose, but not becoming torn.* Pileus truly and firmly fleshy, not hygrophanous, somewhat naked at the margin.

* *Gills not changing colour, nor at length rufescent.*

** *Gills changing colour, commonly with reddish spots.*

II. Genuina. *Pellicle of the pileus never* (with one exception) *viscous* (not even moist by reason of the down upon it which absorbs the damp), *but torn into somewhat scaly flocci or fibrils.* Pileus with soft flesh, not hygrophanous, the margin involute and somewhat tomentose at first. Species which have the *pileus fibrillose only from the veil* must not be confounded with this section. Odour not unpleasant or none.

* *Gills not changing colour, nor marked with rufous or black spots.*

** *Gills rufescent or becoming cinereous, the edge commonly at length marked with rufous or black spots.*

III. Rigida (*rigeo*, to be stiff). *Pellicle of the pileus rigid, punctato-granulate, or broken up when dry into smooth squamules,* not viscous, floccoso-scaly or torn into fibrils. Pileus rigid, in stout species hard, somewhat cartilaginous, in the thinner ones very fragile, the margin (except that of *A. macrorhizus* Lasch.) naked. Young specimens occur which are fibrillose, but from the veil, and not from the laceration of the cuticle, as also other young and small ones which are not broken up. Odour in the majority of species unpleasant.

* *Gills white or becoming pale, not rufescent, or becoming cinereous, nor spotted.*

** *Gills changing colour, rufescent or becoming cinereous or spotted.*

IV. Sericella (*sericeus*, silky). *Pileus* (without a distinct pellicle) *at the first slightly silky, soon becoming smooth, very dry,* neither moist, nor viscid, nor hygrophanous, nor distinctly scaly. Pileus somewhat thin, opaque, absorbing moisture, but the flesh of the same colour as the gills and not hygrophanous; stem in all the species fleshy-fibrous whereby the smaller ones are distinguished from *Collybiæ* which they resemble in appearance. *A remarkable group,* whereof the species must not be confounded with others (as they are liable to be) on account of the pileus having often become even, as if smooth.

* *Gills broad, rather thick, somewhat distant.* Strong-scented.

** *Gills thin, crowded, narrow.* Small and inodorous.

Series B. Pileus even, smooth, neither villous nor scaly, nor viscous, but moist in rainy weather, in the earliest stage (but rarely conspicuously) pruinose from the universal veil. Flesh soft, spongy, or very thin, watery and hygrophanous.

V. Guttata (*gutta*, a drop) or Prunuloidea (diminutive of *prunum*, a plum). *Pileus fleshy, soft, fragile, spotted as if by drops or rivulose, stem solid.* Vernal, occasionally but rarely met with a second time in autumn. Growing in troops or cæspitose (often forming rings). Fragrant especially when dried, anciently reckoned among the most savoury.

* *Gills whitish.*

** *Gills changing colour, rufescent or fuliginous.*

VI. Spongiosa (*spongia*, a sponge). *Pileus compact then spongy, obtuse, even, smooth, moist and not hygrophanous.* Firm, appearing late in the year, growing in troops. Stem stout, commonly thickened at the base, fibroso-spongy. Pileus absorbing damp, fleshy quite to the margin. Gills at length spuriously (but sinuately) decurrent, so that old specimens may be easily mistaken for *Clitocybæ.*

* *Gills not changing colour.*

** *Gills changing colour.*

VII. Hygrophana (ὑγρός, wet, φαίνω, to appear). *Pileus thin, somewhat umbonate, moist, and, as well as the flesh which is at length soft, hygrophanous.* Stem rootless, containing a pith, the whole fissile into fibres. Pileus unequally fleshy, hence more or less umbonate, very thin towards the margin. The colour of the pileus as of itself it becomes pale, as well as from its being hygrophanous, is very changeable in each individual species. Flesh moist, watery, at first compact, then soft, not exceeding in depth the width of the thin gills. The pileus is occasionally pulverulent, which is an abnormal variation arising from the persistence of the veil in dry weather. Tricholoma.

* *Gills whitish without spots.*

** *Gills violaceous, grey, fuliginous.*

SERIES A.

I.—Limacina.

** Gills not changing colour, &c.*

60. A. equestris Linn.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, pale yellowish, or brick-rufescent, disc and squamules darker becoming fuscous, *compactly fleshy*, unequal, convex then plane, very obtuse, flexuoso-repand; *squamules innate*, but the pileus of itself entire (not torn), smooth, viscous, the margin, which is bent inwards when young, naked; flesh thick, whitish. **Stem** 2.5 cent. (1 in.) long and thick, here and there elongated, remarkably fleshy, *solid*, hard, *squamulose*, *sulphur-yellow*, internally white. **Gills** emarginate or rounded, scarcely adnexed, broad, somewhat ventricose, crowded, *sulphur-yellow*.

Stature commonly obese, robust. The colour of the pileus becomes green in later autumn. Odour none, taste pleasant. There are many sufficiently well-marked varieties: Var. *pinastreti* Alb. & Schw. differs in its stem being 7.5 cent. (3 in.) long, 8 mm. (4 lin.) thick, fibrillose, sulphur-yellow or whitish, in its thin pileus being even, more regular, tan-colour, becoming fuscous-squamulose, with watery flesh, and in its gills being narrower.

In fir woods. Uncommon. Sept.–Nov.

Spores ellipsoid or subellipsoid, 6–8 × 4 mk. *K.*; 5 × 4 mk. *W.G.S.* Name—*eques*, a knight. From its handsome appearance compared with others in the same group. "A knight among the common people." *Linn. Suec. n.* 1219. *Fr. Monogr.* i. *p.* 50. *Hym. Eur. p.* 48. *Berk. Out. p.* 97. *t.* 4. *f.* 2 (a smaller darker form). *C. Hbk. n.* 38. *Illust. Pl.* 72. *S. Mycol. Scot. n.* 36. *Gonn. & Rab. t.* 13. *f.* 1. *Brig. Neap. t.* 6. A. aureus *Schæff. t.* 41. A. flavovirens *Pers.*—*Krombh.* 68. *f.* 18-21. *Hartz. t.* 22.

61. A. sejunctus Sow.—**Pileus** about 7.5 cent. (3 in.) broad, fine *light yellow, streaked-fuscous with innate fibrils*, fleshy, convex then expanded, gibbous, the umbo at length vanishing, viscid in wet weather; flesh thin, fragile, shining white. **Stem** *solid*, stout, ventricose, then elongated, as much as 12.5 cent. (5 in.) long, and as thick as the finger, even, *smooth*, shining white,

Tricholoma. *delicately squamulose at the apex.* **Gills** emarginate, broad, *somewhat distant, shining white.*

Odour almost that *of new meal;* taste bitterish. Differing widely from *A. equestris*, &c., in the flesh being fragile. With this there is commonly confounded a fungus almost of the same colour, but mild, with longer striate stem, and with tan-coloured, black-streaked pileus, 10–12.5 cent. (4–5 in.) broad, which is perhaps a form of *A. portentosus* disguised by difference of colour.

In woods, chiefly pine. Uncommon. Autumn.

Pileus dirty yellow or nearly white; gills whitish and thickest near the stem, somewhat flattened as it were by separating from it in a peculiar manner, and partly adhering to each other. *Sow.* Spores 6 mk. *W.G.S.* Name—*sejunctus*, separated. From the peculiar manner in which the gills separate from the stem. *Sow. t.* 126. *Fr. Monogr.* i. *p.* 52. *Hym. Eur. p.* 48. *Icon. t.* 23. *Berk. Out. p.* 97. *C. Hbk. n.* 39. *Illust. Pl.* 53. *S. Mycol. Scot. n.* 37.

62. A. portentosus Fr.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, *fuliginous*, livid, sometimes violaceous, fleshy, but thin in comparison with the stoutness of the stem, convexo-plane, somewhat umbonate, unequal and repand, viscid, *streaked with black lines* (innate fibrils), but otherwise even and smooth, the very thin margin naked; flesh not compact, white, fragile. **Stem** commonly 7.5 cent. (3 in.), often 10–15 cent. (4–6 in.) long, 2.5 cent. (1 in.) thick, stout, *solid*, the whole remarkably fibrous-fleshy, somewhat equal, *naked*, but *fibrilloso-striate*, white; the base, which is occasionally attenuato-rooted, villous. **Gills** rounded, almost free, 6–8 mm. (3–4 lin.) to as much as 2.5 cent. (1 in.) broad, *distant*, *white*, but varying, becoming pale-grey or yellow.

Solitary or gregarious, even cæspitose; *inodorous*, taste mild. Sometimes on naked sandy ground a smaller form occurs with a somewhat bulbous stem. A beautiful variety with sulphur-yellow pileus and fuliginous disc: *Saund. & Sm. t.* 32.

In fir woods, and among dead leaves. Frequent. Aug.–Nov.

Spores ellipsoid-sphæroid, 4–5×3–4 mk. *K.;* 5×4 mk. *W.G.S.* Name—*portentosus*, strange, monstrous. *Fr. Monogr.* i. *p.* 52. *Hym. Eur. p.* 48. *Icon. t.* 24. *f.* 1. *Berk. Out. p.* 97. *C. Hbk. n.* 40. *Illust. Pl.* 54. *S. Mycol. Scot. n.* 38. A. fumosus *Harz. t.* 73.

63. A. fucatus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, rarely more 10, 12.5 cent. (4, 5 in.), becoming lurid-yellow, or cinereous-light-yellow, *variegated with tiger-spots*, the disc darker, *fleshy*, convexo-plane, obtuse, often irregular, viscid, but readily dry and opaque, even, *smooth and not streaked* with innate fibrils; margin thin, naked, scarcely inflexed; flesh thin, pallid, at length fragile. **Stem** 5–7.5 cent. (2–3 in.) long, 8–12 mm. (4–6 lin.) thick, *stuffed*, soft, ascending or straight, somewhat equal, externally at first

minutely and densely *squamulose*, then remarkably fibrillose, *variegated with fibrils which are at length blackish*, white and delicately white pruinose at the apex, otherwise becoming pale-white and at length fragile. **Gills** deeply emarginate, 6–10 mm. (3–5 lin.) broad, ventricose, *somewhat crowded*, fragile, *whitish*. Tricholoma.

Trama hyaline, almost of the same colour as the flesh of the pileus. A most distinguished species, not rightly allied to any; polymorphous, and hence it has been confounded alike with *A. portentosus*, from which it is most distinct, and with *A. quinquepartitus*.

In woods, chiefly pine. Frequent. Oct.–Nov.

Spores ovoid, punctate, 5 mk. *Q.* Name—*fuco*, to dye, stained. *Fr. Monogr.* i. *p.* 54. *Hym. Eur. p.* 49. *Icon. t.* 24. *f.* 2. *Berk. Out. p.* 97. *C. Hdk. n.* 41. *Illust. Pl.* 73. *S. Mycol. Scot. n.* 39.

64. A. quinquepartitus Fr.—**Pileus** 7.5 cent. (3 in.) and more broad, *pallid light-yellow*, fleshy, thin at the circumference, convex then flattened, repand, even, *smooth, by no means streaked*, viscid, fragile; flesh, with exception of the disc, thin, fragile, white and somewhat hygrophanous. **Stem** 7.5–10 cent. (3–4 in.) long, commonly attenuated from the base to the apex, 12 mm. (½ in.) and more thick, *solid, fleshy, striate, smooth, white*. **Gills** emarginate, not crowded, 12 mm. (½ in.) broad, *white*.

Odour none, taste mild. Repand forms of *A. portentosus* and *A. fucatus* have been confounded with this; it is readily distinguished from the former by the pileus being by no means streaked, and from the latter by the smooth striate stem.

Among pine-leaves. Very rare.

Name—*quinquepartitus*, with five-fold division. The name has no signification in regard to the plant. It was given by Linnæus to a species which cannot now be identified, and was adopted by Fries for this one, because it was found near the residence of Linnæus. *Fr. Monogr.* i. *p.* 54. *Hym. Eur. p.* 49. *Icon. t.* 25. *C. Illust. Pl.* 74.

65. A. resplendens Fr. Wholly *shining white*.—**Pileus** 5–10 cent. (2–4 in.) broad, wholly and equally fleshy, but not compact, at first convex, at length flattened, obtuse, when fresh quite even, smooth, viscous; *when dry* beautifully silvery-*shining*, often with hyaline spots; the disc becoming yellow, and the surface appearing adpressedly silky, although it is smooth; *margin straight*. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) and more thick, *solid*, wholly fleshy and stout, sometimes equal, sometimes bulbous, *even*, smooth or slightly flocculose only at the apex, dry, occasionally curved. **Gills** almost free when young, then remarkably emarginate, somewhat crowded, rather thick, but thin at the edge, quite entire, 6–8 mm. (3–4 lin.) broad, equally attenuated in front.

Tricholoma. Gregarious; odour pleasant; taste mild. Habit in a measure that of *Hygrophorus eburneus*. Doubtless edible.

In woods, beech, &c. Frequent. Sept.–Oct.

Name—*resplendens*, shining brightly. *Fr. Monogr.* i. *p.* 55. *Hym. Eur. p.* 49. *Icon. t.* 29. *f.* 1. *B. & Br. n.* 1337. *S. Mycol. Scot. n.* 40. *C. Illust. Pl.* 55.

66. A. spermaticus Fr. White.—**Pileus** somewhat fleshy, convex then flattened, obtuse, repand, smooth, viscous (shining when dry), *margin at first bent inwards*, naked. **Stem** stuffed then hollow, elongated, twisted, even. **Gills** emarginate, somewhat distant, eroded.

Like *A. Columbetta*, but of a stinking odour, always unspotted.

In woods. Coed Coch. Oct.

Pileus several inches across. *M. J. B.* Poisonous. Name—σπέρμα, semen. Of the odour. *Fr. Hym. Eur. p.* 49. *Berk. Out. p.* 98. *C. Hbk. n.* 42. *Illust. Pl.* 87. *Paul. t.* 45.

*** Gills changing colour, &c.*

67. A. colossus Fr.—**Pileus** brick-colour, date-brown at the sides, when young in the form of a tuber, the margin very closely bent inwards-involute, embracing the constricted part of the stem; then hemispherical, the still closely inflexed margin whitish, even and smooth—at length unfolded, plano-convex and depressed, always very obtuse, repand, 20 cent. (8 in.) and more, broken up into scales, slightly viscid round the margin in wet weather; flesh dry, very hard, remarkably fibrous, 5 cent. (2 in.) thick, *everywhere turning to a flesh-brick-red colour when broken*. **Stem** solid, flesh the same throughout and very compact, 7.5–10 *cent.* (3–4 *in.*) *long and the ovato-bulbous base equally thick*, but very much constricted at the apex, where it is only 5 cent. (2 in.) thick, *definitely two-coloured;* the bulbous part smooth in itself but torn into fibres, brick-tawny; the constricted part, which is at the first enclosed by the closely involute pileus, floccose and shining white. **Gills** rounded-free, at first narrow and crowded, white, then broader, more distant, entire, at length 12 mm. (½ in.) broad, fragile, torn, pallid brick-red.

When young the tuber-like pileus rests upon a bulb like *Cortinarii* of section *Scauri*, and emerges from the ground covered over with soil and pine-leaves. At first the stem appears as a deformed tuber, 7.5–10 cent. (3–4 in.) broad, depressed, bearing the pileus obliquely. On account of the stem being oblique, the gills are emarginate-decurrent on its outer side. Odour none. The largest and hardest of all Agarics hitherto found.

Under Scotch firs and elm. Near Taunton. Oct. Tricholoma.

Var. Pileus about 10 cent. (4 in.) across, irregularly lobed and undulated, minutely scaly, grey; stem about 5 cent. (2 in.) high, thicker upward, buff, yellow at the base; gills rather wide, pallid. Smell strong, like that of cheese. *B. & Br.* Spores 6×4 mk. *W.G.S.* Name—κολοσσός, a gigantic statue. *Fr. Monogr. p.* 47. *Hym. Eur. p.* 50. *Icon. t.* 21, 22. *C. Hbk. n.* 61. *Illust. Pl.* 75. *B. & Br. n.* 1190, var.

68. A. nictitans Fr.—**Pileus** 5 cent. (2 in.) and more broad, *becoming yellow*, disc darker, fleshy, but *thin*, convex then flattened, obtuse, *even*, *smooth*, viscid; flesh white. **Stem** 7.5 cent. (3 in.) long, 12 mm. (½ in.) thick, *solid*, fleshy, equal or attenuated upwards, truncate at the base, *dry*, *squamulose at the apex*, pallid light-yellow. **Gills** rounded-adnexed, *crowded*, rather broad, somewhat ventricose, and without a decurrent tooth, light-yellow, when old here and there with rufescent spots.

Inodorous, mild. Distinguished from *A. flavobrunneus* by the stem not being viscous and not attenuated but rather thickened at the base, blunt, becoming yellow, by the pileus being moderately thin, not streaked, and by the gills being at first rounded-free without a decurrent tooth, and at length (when the pileus is depressed) only obtusely adnexed to the stem.

In woods. Rare. Sept.

Spores 9 × 6 mk. *W.G.S.* Name—*nictitans*, winking. Meaning not apparent. *Fr. Monogr.* i. *p.* 56. *Hym. Eur. p.* 50. *Berk. Out. p.* 98. *C. Hbk. n.* 43. *Illust. Pl.* 56. *Hussey*, ii. *t.* 46. *Bull. t.* 574. *f.* 1.

* **A. fulvellus** Fr.—**Pileus** pale-yellowish-rufescent or tan colour, fleshy, convex, plane, viscous, even, the darker disc *dotted-wrinkled*. **Stem** stuffed then hollow, fibrillose, whitish-rufescent, naked at the apex. **Gills** rounded then emarginate, crowded, white, rufescent.

Sometimes very small, scarcely 2.5 cent. (1 in.). Inodorous. Subjoined to *A. nictitans* on the authority of Bulliard; it seems nearer to *A. flavobrunneus*, to which it is very similar in habit, and to *A. ustalis*, although very different in appearance.

In woods. Coed Coch, &c. Oct.

Spores 4 mk. *W.G.S.* Name—diminutive of *fulvus*, tawny. *Fr. Hym. Eur. p.* 50. *Berk. Out. p.* 98. *C. Hbk. n.* 44. *Illust. Pl.* 57. A. fulvus *Bull. t.* 555. *f.* 2.

69. A. flavobrunneus Fr.—**Pileus** 7.5–15 cent. (3–6 in.) broad, rufous-tawny with a darker disc or altogether reddish-brown, *fleshy*, conico-convex then flattened, broadly gibbous, viscous, *streaked with fibrils* or innately squamulose (not torn); flesh moderately compact, white, but that of the stem either wholly or at least at the circumference *sulphur-yellow*. **Stem** 7.5–12.5

Tricholoma. cent. (3–5 in.) long, 12 mm. (½ in.) thick, rufescent or becoming fuscous, *hollow*, commonly *ventricose* (attenuated at both ends), equal only when smaller, rufous-*fibrillose, at the first viscid, and naked at the apex.* **Gills** *emarginate* and at the same time remarkably *decurrent with a tooth*, crowded, *light-yellow*, spotted-rufous when touched or with age.

Odour of new meal, strong, rancid. Commonly growing in troops, and often cæspitose. Sometimes the gills vary in colour pallid, nay whitish; such forms are often confounded with *A. albobrunneus.* Among varieties there is one to be separately noted, *thinner*, with the pileus and the equal stem thin, the paler pileus even and wrinkled-dotted only at the disc, and the gills whitish.

In deciduous woods. Frequent. Sept.–Oct.

Fries notes that it is commonly found in birch woods. Name—*flavus*, light-yellow, *brunneus*, brown. From the brown pileus and yellow gills. *Fr. Monogr.* i. *p.* 56. *Hym. Eur. p.* 51. *Icon. t.* 27. *f.* 1. *Berk. Out. p.* 98. *C. Hbk. n.* 45. *Illust. Pl.* 58. *S. Mycol. Scot. n.* 41. *Letell. t.* 707.

70. A. albobrunneus Pers.—**Pileus** about 7.5 cent. (3 in.) broad, beautiful *brown*, fleshy, but compact only at the disc, *campanulate* then hemispherical, viscid, becoming even, but remarkably *streaked with innate fibrils*, the thin margin, which is at first incurved, often wrinkled-crenate; flesh scissile, shining white. **Stem** 4–5 cent. (1½–2 in.) long, 2.5–4 cent. (1–1½ in.) thick, *solid*, becoming hollow only when old, firm, *equal*, at first sight smooth, when more closely examined the surface fibrillose-evened, dry (not viscous), rufescent, constantly white, however, at both ends and chiefly *at the apex* where it is *white mealy;* flesh compact, shining white. **Gills** rounded-emarginate, not decurrent, scarcely crowded, *very broad*, 6 mm. (3 lin.) and more, firm, at first *shining white*, soon, however, becoming pale or rufescent.

The pileus varies date-brown and umber. Very remarkable, scarcely allied to *A. flavobrunneus. Odour none;* taste mild.

In woods. Frequent. Sept.–Nov.

Spores 3×4 mk. *W.G.S.* Name—*albus*, white; *brunneus*, brown. From the brown pileus and white gills. *Pers. Syn. p.* 293. *Fr. Monogr.* i. *p.* 57. *Hym. Eur. p.* 51. *Berk. Out. p.* 98. *C. Hbk. n.* 47. *Illust. Pl.* 197. *S. Mycol. Scot. n.* 42. *Viviani t.* 32. *Barl. t.* 12. A. striatus *Schæff. t.* 38. A. compactus *Sow. t.* 416.

71. A. ustalis Fr.—**Pileus** bay-brown-rufous, fleshy, *not compact*, hemispherico-expanded, at first umbonate, soon plane and obtuse, *even*, smooth, *not streaked*, slightly wrinkled-dotted only at the disc; flesh white, becoming red here and there when broken. **Stem** 5–7.5 cent. (2–3 in.) long, about 12 mm. (½ in.) thick, stuffed then *hollow*, *equal*, somewhat rooted, *dry*, *fibrillose*, whitish or

rufescent, becoming silky-even and more whitish but not mealy at the apex. **Gills** emarginate, *with a small decurrent tooth, crowded,* rather broad, white, at length rufescent. Tricholoma.

Intermediate between *A. flavobrunneus* and *A. pessundatus*, but readily distinguished from both by the *entire absence of smell.* There are two forms which are constantly different—one larger and firmer, in pine woods, the other smaller and thinner, in beech woods.

In woods, chiefly pine. Rare. Sept.

Spores 5 × 8 mk. *W.G.S.* Name—*uro*, to burn. From its scorched appearance. *Fr. Monogr.* i. *p.* 57. *Hym. Eur. p.* 51. *Icon. t.* 27. *f.* 2. *C. Hbk. n.* 46. *Illust. Pl.* 88. *S. Mycol. Scot. n.* 43. *Gonn. & Rab. t.* 14. *f.* 2.

72. A. pessundatus Fr.—**Pileus** bay-brown or rufescent, paler even whitish at the circumference, compactly fleshy, convex then expanded, very obtuse, flexuous, smooth, in no wise streaked, but *granulate or guttato-spotted,* viscid; the bent-in margin naked. **Stem** 5–7.5 cent. (2–3 in.) long, as much as 2.5 cent. (1 in.) thick, solid, hard, at first in the form of a bulb, *everywhere villous with whitish squamules*, then somewhat equal, rather smooth, white. **Gills** deeply emarginate, somewhat free, crowded, at first very narrow, shining white, then 6 mm. (3 lin.) broad, rufescent.

Odour of new meal, strong; taste mild.

In fir woods. Rare. Sept.–Oct.

Reckoned edible, but too rare to merit attention. Spores very minute, globose, 2–3 mk. *C.B.P.* Name—*pessum dare*, bent downwards. *Fr. Monogr. p.* 58. *Hym. Eur. p.* 52. *S. Mycol. Scot. n.* 44. *Sterb. t.* 8 *A.*

73. A. stans Fr.—**Pileus** rufescent, compact, convex then flattened, viscid, *even* (neither granulated nor spotted); *flesh reddish* under the cuticle. **Stem** solid, somewhat equal, squamulose. **Gills** rounded, crowded, white, spotted-red.

There are two forms: a) *campestris*, stem short, obese, reddish-squamulose but not villous, the broader pileus becoming more plane, brown-rufous, obsoletely squamuloso-virgate?; in deciduous groves, &c.: b) *montana*, stem elongated, 7.5 cent. (3 in.), wholly equal, white, white-squamulose only at the apex, pileus smaller, more convex and wholly even; in mountainous pine woods.

In woods. Coed Coch, &c. Oct.

Spores subsphæroid, 5–6 × 4 mk. *K.* Name — *stare*, to stand. Standing upright. *Fr. Hym. Eur. p.* 52. *Icon. t.* 28. *C. Illust. Pl.* 198.

74. A. frumentaceus Bull.—**Pileus** 5–7.5 cent. (2–3 in.) broad, whitish or clay-colour and variegated rufous, truly fleshy, convex then plane, obtuse, viscous, dry in fine weather, *even, smooth;* flesh white. **Stem** 7.5 (3 in.) long, 12 mm. (½ in.) thick, *solid,*

Tricholoma. *equal, fibrillose* when dry, whitish. **Gills** *rounded,* somewhat crowded, rather broad, white, at length spotted-rufous.

Wholly *becoming pale-white,* but the stem and the pileus are alike *marked-rufous,* and the gills are at length rufescent, wherefore, as well as for the *strong smell of new meal,* it is undoubtedly nearest to *A. pessundatus.* The pileus is less compact than in that species. There can scarcely be a doubt that this is the same species as was referred by Berkeley (Out. p. 144) to the pink-spored species. When full grown it has all the appearance of *Entoloma.*

On the ground. Forres. Glamis. Oct.

Spores 6 mk. *W.G.S.* Name—*frumentum,* corn. From the mealy odour. *Bull. t.* 571. *f.* 1. *Fr. Monogr.* i. *p.* 59. *Hym. Eur. p.* 52. *S. Mycol. Scot. Supp. Scot. Nat.* 1881, *p.* 34. Entoloma *Berk. Out. p.* 144. *C. Hbk. n.* 254. *Illust. Pl.* 470.

II.—Genuina.

* *Gills not changing colour, &c.*

75. A. rutilans Schæff.—**Pileus** truly fleshy, semi-ovate and obtuse *when young,* the thin margin incurved, *wholly covered over with dense continuous down, which becomes dark-purple* or reddish-brown; when fuller grown campanulate, often umbonate, of one colour, purple; when fully *unfolded* convexo-flattened, often umbonate, *light-yellow variegated with purple* from the cuticle being broken up into innate floccose scales, always dry; flesh when quite young *light-yellow,* golden when broken, soft. **Stem** fleshy, somewhat hollow, large but *soft,* bulbous when shorter, ventricose when longer, *light-yellow,* beautifully *variegated chiefly upwards with squamulose flocci, which become purple.* **Gills** at the very first *yellow* and then almost adnate, crowded, *the edge thickened obtuse and floccose,* often flexuous; when full grown thinner, broader, less crowded, golden, pallid at the sides.

The continuous down is in a measure a universal veil. Very variable in its dimensions. Splendid, very elegant, inodorous.

In pine woods. Common. Aug.–Nov.

Pileus 5–10 cent. (2–4 in.) broad. Stem 6–9 cent. (2½–3½ in.) long, 1–2.5 cent. (½–1 in.) thick, sometimes much larger. Spores sphæroid-ellipsoid, 5–8 × 6–7 mk. *K.;* 6–8 × 6 mk. *B.;* 6 × 9 mk. *W.G.S.* Name — *rutilo,* to be reddish. *Schæff. t.* 219. *Fr. Monogr.* i. *p.* 59. *Hym. Eur. p.* 53. *Berk. Out. p.* 99. *C. Hbk. n.* 49. *Illust. Pl.* 89. *S. Mycol. Scot. n.* 45. *Fl. Dan. t.* 1610. *Krombh. t.* 63. *f.* 10–12. *Gonn. & Rab. t.* 14. *f.* 1. A. serratus *Bolt. t.* 14. A. xerampelinus *Sow. t.* 31.

76. A. variegatus Scop.—**Pileus** 5–10 cent. (2–4 in.) broad, fleshy, when full grown flattened, very obtuse or obsoletely umbonate, fragile, sometimes wholly covered over, sometimes, but more rarely, sprinkled above the pallid (becoming light-yellow)

base with *purple-reddish flocci*, naked at the margin; *flesh* almost *whitish*, then pallid light-yellow. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) thick, stuffed, somewhat equal, curved, occasionally bulbous, sometimes *variegated with thin reddish villous down*, sometimes almost naked, *yellowish-white*, scarcely whitish-pruinose at the apex. **Gills** rounded, crowded, thin, *light-yellow-whitish, the edge always quite entire*, acute, and of the same colour. Tricholomá.

Allied to *A. rutilans;* in general smaller, leaner, and less handsome. The stem is harder and tougher. It varies with the stem hollow, the gills pallid, and the pileus granulate.

On rotten wood. Epping.

Name — *variegatus*, variegated. *Scop. Carn. p.* 434. *Fr. Monogr.* i. *p.* 60. *Hym. Eur. p.* 53. *Fl. Dan. t.* 1910. *f.* 2. A. granulatus *Schæff. t.* 21. *Grevillea, vol.* xiii. *p.* 57.

77. A. luridus Schæff.—**Pileus** *lurid*, becoming yellow-cinereous, sometimes light-yellow, never rufescent, fleshy, convex then plane, obtuse, somewhat repand, irregularly shaped, absolutely *dry*, the *cuticle* easily *separating into fibrils*, and the pileus itself often rimosely incised. **Stem** 5–7.5 cent. (2–3 in.) long, 1–2.5 cent. (½–1 in.) thick, solid or stuffed, unequal, *smooth*, *white*. **Gills** emarginate, broad, very *crowded*, watery *whitish*.

It differs from *A. saponaceus* (which is somewhat like it), *A. sejunctus*, and others which have been interchanged with it, in its mild taste, in its odour of new meal, in the flesh alike of the pileus and stem being soft, absorbing moisture, never rufescent, in the cuticle of the pileus not separating into scales, and in the thin crowded gills.

In woods. Common. Sept.–Oct.

Spores sphæroid-ellipsoid, 5 × 3–4 mk. *K.*; 5–6 × 3–4 mk. *B.* Name—*luridus*, lurid. *Schæff. t.* 69. *Fr. Monogr.* i. *p.* 62. *Hym. Eur. p.* 54. *Berk. Out. p.* 99. *C. Hbk. n.* 51. *Illust. Pl.* 214. *Brigant. Neap. t.* 7 (cuticle of pileus entire).

78. A. guttatus Schæff.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, cinnamon or somewhat pale yellowish, fleshy, convex then flattened, dry, broken up into somewhat granular or floccose squamules, *margin remotely sulcate*, at first involute, white-floccose; flesh thick, white. **Stem** solid, mealy, white. **Gills** emarginate, decurrent in the form of lines, very crowded, snow-white.

Somewhat cæspitose. Odour and taste bitter, somewhat acrid. From the specimens of Lasch the pileus is rather floccose than granulose.

In woods. Downton. 1878.

Tricholoma. Name — *gutta*, a drop. Spotted. *Schæff. t.* 240. *Fr. Hym. Eur. p.* 54. *B. & Br. n.* 1839. *C. Illust. Pl.* 59.

79. A. columbetta Fr. *Wholly shining white.*—**Pileus** 5–10 cent. (2–4 in.) broad, fleshy, firm but not thick, convex then flattened, obtuse, flexuous, dry, *at first smooth, then silky-fibrillose and becoming even* or squamulose, the margin, which is inflexed when young, tomentose. **Stem** sometimes short, sometimes 7.5–10 cent. (3–4 in.) long, almost 2.5 cent. (1 in.) thick, *solid*, wholly fleshy and compact (not elastic), commonly unequal. **Gills** somewhat emarginate, *almost free*, 4–6 mm. (2–3 lin.) broad, linear, *persistently shining white.*

Solitary, *inodorous*. The pileus does not become yellow as *A. impolitus* does, but is occasionally spotted-red. As the pileus changes with the condition of the atmosphere (moist when fresh and damp, but never watery) and with age, so the gills are narrow when young, then very broad. Widely removed from the rest of the white Tricholomata. There are certain well-marked forms: A) Stem obese, as much as 2.5 cent. (1 in.) thick, unequal, swollen, pileus always almost repand, even-lobed, at first smooth, even, at length rimosely scaly, the margin, which is inflexed when young, tomentose. Often spotted-reddish. In heathy birch woods, among mosses. B) Stem longer, equal, somewhat attenuated at the base; pileus somewhat flexuous, silky-fibrillose, at length squamulose, sometimes becoming fuscous-spotted; margin scarcely villous. In mixed damp thickets. A. sericeus *Krombh. t.* 25. *f.* 6, 7. C) Stem equal, cylindrical, as much as 10 cent. (4 in.) long, fibrilloso-striate; pileus regular, flattened, 10 cent. (4 in.) broad, evidently fibrillose, margin naked; flesh thin, scissile, occasionally spotted azure-blue. In shady beech woods.

In woods and pastures. Frequent. Aug.–Nov.

The centre of the pileus, as noted by Withering, is often dilute mouse-colour lightly shaded off. Edible; taste mild but not mealy. Spores 6–8 × 3–4 mk. *B.* 5 × 4 mk. *W.G.S.* Name — *columba*, a pigeon. Dove-coloured. *Fr. Monogr.* i. *p.* 63. *Hym. Eur. p.* 55. *Icon. t.* 29. *f.* 2. *Berk. Out. p.* 99. *C. Hbk. n.* 52. *Illust. Pl.* 48. *S. Mycol. Scot. n.* 46. *Letell. t.* 625. *Quel. t.* 2. *f.* 2. *Gonn. & Rab. t.* 15. *f.* 1. *Paul. t.* 58.

80. A. scalpturatus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, fleshy, at the first conical, covered with down, soon convexo-flattened, obtuse, variegated-fuscous above the white ground from the *cuticle being broken up into* adpressed, *scattered, floccose, umber or rufescent scales*, which become more rare and minute towards the margin; flesh not thick but slightly firm, whitish. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) thick, *solid*, sometimes attenuated, sometimes thickened at the base, firm, *white*, not scaly, *adpressedly fibrillose.* **Gills** emarginate, somewhat crowded, ventricose, quite entire, *white*, becoming yellow when old and dried, but never becoming cinereous.

It differs from *A. terreus*, to which it is certainly allied, in its firmer stature, in the gills being white then becoming yellow, and in the obtuse whitish pileus being as it were scratched on account of the minute rarer adpressed scales.

In fir woods. Uncommon. Sept.–Nov. Tricholoma.

Name—*scalpto*, to scratch. From its scratched appearance. *Fr. Monogr.* i. *p.* 61. *Hym. Eur. p.* 55. *Berk. Out. p.* 101. *C. Hbk. n.* 50. *Illust. Pl.* 215. *S. Mycol. Scot. n.* 47. *Batt. t.* 15 *F.* A. argyraceus, *Berk. Eng. Fl.* v. *p.* 18, *partly*. Var. virescens *Wharton*, turning yellowish-green. *C. Illust. descr.*

*** Gills rufescent or becoming cinereous, &c.*

81. A. imbricatus Fr.—**Pileus** 7.5 cent. (3 in.) and more broad, rufous-umber or *umber*, very opaque, fleshy, *compact*, broadly *convex then flattened, obtuse*, very dry, continuous at the disc, otherwise *torn into squamules*, and fibrillose towards the circumference; margin thin, at first when inflexed slightly pubescent, then quite *naked;* flesh firm, moderately thick, white. **Stem** *solid, stout*, sometimes short, conico-bulbous, 4–5 cent. (1½–2 in.) long, as much as 2.5 cent. (1 in.) thick, sometimes extended, 7.5 cent. (3 in.) long and almost equal, *adpressedly fibrillose, white at the apex, white-pulverulent with squamules.* **Gills** slightly emarginate, *almost adnate*, somewhat crowded, about 6 mm. (3 lin.) broad, wholly white when young, at length rufous.

Scattered or growing in troops. Stem sometimes pierced by larvæ.

In pine woods. Frequent. Sept.–Nov.

The stem is very often variously bent and attenuated at the base. The names of this and of *A. vaccinus* have been transposed. *A. vaccinus* is much more scaly than *A. imbricatus*. Edible according to old authors. Spores 6×4–5 mk. *K.;* 6–7×4 mk. *B.;* 4×5 mk. *W.G.S.;* 5 mk. *W.P.* Name—*imbrex*, a tile; imbricated. *Fr. Monogr.* i. *p.* 64. *Hym. Eur. p.* 56. *Icon. t.* 30. *Berk. Out. p.* 99. *t.* 4. *f.* 3. *C. Hbk. n.* 53. *Illust. Pl.* 199, not *Pl.* 60. *S. Mycol. Scot. n.* 48. *Gonn. & Rab. t.* 18. *f.* 1.

82. A. vaccinus Pers.—**Pileus** when young 2.5–5 cent. (1–2 in.) broad, when full grown and largest 10–12.5 cent. (4–5 in.), *rufous*, fleshy, *campanulate then expanded*, umbonate, wholly *torn* up into *floccose* squarrose, or, when smaller, adpressed *scales*, dry, margin at first involute, tomentose; flesh, alike of the pileus and of the fibrous stem, white, then reddish. **Stem** about 7.5 cent. (3 in.) long, 8–16 mm. (4–8 lin.) thick, *hollow, equal*, round, remarkably *fibrillose*, more or less manifestly furnished with a cortina, *naked* (not white-pulverulent) *at the apex*, whitish-rufescent. **Gills** *slightly sinuate*, almost adnate, *somewhat distant*, 6–12 mm. (3–6 lin.) broad, at first whitish, then spotted-rufous and at length rufescent.

The flesh of the stem is less diffused into that of the pileus than usual. Growing in troops. Earlier than *A. imbricatus*, the flesh of the pileus is very much *thinner* than that of *A. imbricatus*. The at first involute tomentose margin serves instead of a veil.

Tricholoma. In fir woods. Frequent. Sept.–Oct.

Taste disagreeable. *M. J. B.* Spores ellipsoid-sphæroid, 6 mk. *K.* Name—*vacca*, a cow. From the reddish-brown colour. *Pers. Syn. p.* 293 (excluding synonym *Schæff.*) *Fr. Monogr.* i. *p.* 65. *Hym. Eur. p.* 56. *Berk. Out. p.* 100. *C. Hbk. n.* 54. *Illust. Pl.* 60. *S. Mycol. Scot. n.* 49. *Batsch f.* 116. A. rufus. *Pers. Ic. and descript. t.* 2. *f.* 1–4.

83. A. immundus Berk.—**Pileus** 5 cent. (2 in.) or more broad, dirty white stained with bistre, fleshy, at first convex, minutely silky; margin inflexed, silky or minutely scabrous and squamulose. **Stem** fibrillose, of the same colour as the pileus. **Gills** emarginate, marked with transverse lines, somewhat cinereous with a pinkish tinge.

Cæspitose. Every part blackish when bruised. Border deflexed.

Among short grass on sheep's dung. Rare. Oct.

Name—*immundus*, dirty, discoloured. *Berk. Out. p.* 103. *C. Hbk. n.* 72. *Illust. Pl.* 61. *S. Mycol. Scot. Supp. Scot. Nat.* 1882, *p.* 213. *Fr. Hym. Eur. p.* 56.

84. A. gausapatus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *grey-cinereous*, fleshy, somewhat thin, *bullate* or obtusely campanulate, *the flexuous bent-in margin tomentose-woolly*, then expanded, repand, *tomentose with dense, superficial, separating, silky-adpressed fibrils*, somewhat woolly. **Stem** 5 cent. (2 in.) long, 12 mm. (½ in.) and more thick, *solid*, stout, equal, blunt, laxly-*fibrillose, shining white*, manifestly furnished with a cortina. **Gills** emarginate, free, crowded, 4 mm. (2 lin.) broad, grey.

Allied to *A. terreus*, but larger, mild, inodorous, the form of the pileus remarkable.

In grassy woods. Epping Forest.

Spores 4 × 6 mk. *W. P.* Name—*gausapa* (γαυσάπης), a shaggy woollen cloth. From the covering of the pileus. *Fr. Monogr.* i. *p.* 67. *Hym. Eur. p.* 57.

85. A. terreus Schæff.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, *fuscous*, mouse colour, grey, becoming azure-blue, &c., slightly fleshy, soft-fragile, *campanulate then expanded*, umbonate, *villous, for the most part floccoso-scaly*, sometimes broken up into dark (not white) innate adpressed fibrils, repand when larger; margin at first inflexed, naked; flesh scissile, white. **Stem** about 5 cent. (2 in.) long, 8–10 mm. (4–5 lin.) thick, *solid*, more rarely at length hollow, equal, *becoming even with longitudinally adpressed fibrils, white* and delicately white pruinose at the apex. **Gills** *remarkably emarginate, somewhat distant*, 6 mm. (3 lin.) broad, unequal at the edge, *white then becoming cinereous.*

Inodorous, gregarious, varying solitary and cæspitose. *Cortina none.* Tricholoma. Sometimes *larger* with the pileus repand, scaly, and fibrillose; sometimes *smaller*, regular, with the pileus papillate, dotted with squamules, and with the margin at first inflexed. The margin of the pileus is not bearded with white down like that of *A. gausapatus*.

In woods, chiefly under beech. Common. Aug.–Nov.

Spores ellipsoid-sphæroid, 6–7×4 mk. *K.*; 5–6×3–4 mk. *B.*; 6 mk. *W.G.S.* Name—*terra*, the earth. Earth-coloured. *Schæff. t.* 64 (not typical, connato-cæspitose). *Fr. Monogr.* i. *p.* 67. *Hym. Eur. p.* 57. *Berk. Out. p.* 100. *C. Hbk. n.* 57. *Illust. Pl.* 50. *S. Mycol. Scot. n.* 50. *Sow. t.* 76. *Ventur. t.* 45. *f.* 4, 5. *Saund. & Sm. t.* 44. *f.* 2. *Gonn. & Rab. t.* 17. *f.* 2. A. argyraceus *Bull. t.* 513. *f.* 2. A. myomyces *Alb. & Schw. Letell. t.* 663. *f.* 6.

* **A. argyraceus** Bull.—Gills and commonly pileus shining white.

Name—ἄργυρος, silver. From its shining appearance. *Bull. t.* 423. *Fr. Hym. Eur. p.* 58. *Kalchbr. Hung. t.* 4. *f.* 1. *C. Illust. Pl.* 165.

* **A. atrosquamosus** Chev.—Gregarious. **Pileus** about 5 cent. (2 in.) broad, pallid cinereous, convex then flattened, umbonate, squamulose; margin rather woolly, squamules of the pileus small, black. **Stem** 6–7.5 cent (2½–3 in.) long, 12 mm. (½ in.) thick, stuffed, fibrillose, white, with a few black squamulose points about the apex, base slightly thickened. **Gills** ventricose, emarginate, rather thick, scarcely crowded.

Name—*ater*, black, *squamosus*, scaly. In grassy places. Nov. *Chev. Fung. & Byss. Illus. Grevillea, vol.* ix. *p.* 93.

* **A. orirubens** Quel.—**Pileus** fleshy, convex, fragile, *smooth, grey*, brownish in the centre, clad with blackish fibrils. **Stem** solid, fibrous, white, streaked with rose at the base; flesh white, odour mealy. **Gills** emarginate, undulated, white with the edge rose. Spores oval, white.

On the ground. Oct. Name—*os*, mouth; *rubeo*, to be red. From the red-edged gills. *Quelet Jur. p.* 327. *Grevillea, vol.* x. *p.* 41. *C. Illust. Pl.* 90.

III.—Rigida.

** Gills white or becoming pale, &c.*

86. A. macrorhizus Lasch.—**Pileus** 20 cent. (8 in.) broad, ochraceous, compact, convex then plane, even, smooth, then broken up in a tesselated manner. **Stem** 5 cent. (2 in.) thick, solid, stout, whitish then ochraceous, very delicately granulated, with a *thick, fleshy*, blunt *root*. **Gills** emarginate, pallid.

A magnificent fungus with a root which has no equal in size. Odour heavy, corpse-like.

Tricholoma. On the ground. King's Lynn.

Name—μακρός, long, ῥίζα, a root. *Lasch n.* 240. *Fr. Hym. Eur. p.* 58. *C. Illust. Pl.* 278. A. macrocephalus *Schulz. in Kalchbr. Fung. Hung. p.* 11. *t.* 3. *f.* 1.

87. A. saponaceus Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, normally fuscous-livid, fleshy, convex then flattened, obtuse, wholly smooth, moist in rainy weather, but never viscous, even, then when dry more or less rimoso-rivulose, dotted or broken up into scales; margin thin, at first inflexed, very smooth; flesh whitish, often becoming red. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) and more thick, solid, often unequal, as curved, rooted at the attenuated base, pallid. **Gills** uncinato-emarginate, distant, thin, quite entire, in groups of 2–4, becoming pale-white.

Pileus varying in colour, whitish, cinereous, green, becoming black. Stem sometimes smooth, sometimes squamulose when early in deciduous woods, sometimes elegantly reticulated with black fibrils in later autumn in mountainous pine woods, *Fr. Icon. t.* 32, lower fig. It varies with the gills becoming yellow, such as A. napipes *Krombh. t.* 28. *f.* 23, 24. Scarcely any species has been more confounded with others. It may always be safely distinguished by its *odour*, which is wholly peculiar, rather *soapy* than nitrous (quite different from that of *A. alkalinus*, *Hygrophorus murinaceus*, &c.), also by the *compact* not fragile *substance*, by the distant gills, by the smooth *cuticle of the pileus* at length *cracking into scales*, and likewise by *spots*, which are often *reddish*, both on the flesh and stem when wounded.

In deciduous and pine woods. Common. Aug.–Nov.

I have found an exceedingly handsome form in which the stem (figured in Cooke's Illust. Pl. 216) is beautifully marked with regular zones of small black scales. Spores sphæroid-ellipsoid or subsphæroid, 5 × 4 mk. *K.*; 4–5 × 2–3 mk. *B.*; 6 × 4 mk. *W.G.S.* Name — *sapo*, soap. From the odour. *Fr. Monogr.* i. *p.* 69. *Hym. Eur. p.* 59. *Icon. t.* 32, upper fig. *Berk. Out. p.* 101. *C. Hbk. n.* 58. *Illust. Pl.* 91, 216. *S. Mycol. Scot. n.* 51. A. argyraceus *Berk. Eng. Fl.* v. *p.* 18 *partly.* A. madreporeus *Batsch t.* 36. *f.* 203. A. argyrospermus *Bull. t.* 602. A. fusiformis *Schum. Fl. Dan. t.* 1729. A. murinaceus *Krombh. t.* 72. *f.* 6-18.

88. A. cartilagineus Bull.—**Pileus** 5–7.5 cent. (2–3 in.) and more broad, fleshy, not compact, *rigid*, somewhat fragile, convex then expanded, gibbous, undulated, smooth, delicately and densely *black-dotted* from the cuticle being broken in minute cracks; flesh white. Stem 2.5–5 cent. (1–2 in.) and more long, almost 2.5 cent. (1 in.) thick, *hollow*, curt and firm, but fragile, *shining white*, *the surface polished*, even, smooth. Gills emarginato-sinuate, *crowded*, moderately *thin*, 4 mm. (2 lin.) broad, *white*, then becoming pale-grey but pure.

When young convex, obtuse, with the involute margin pubescent, then expanded, undulato-repand (rimosely incised when dry), very obtuse, with the

margin remaining deflexed and incurved; always very dry, at the very first *minutely and very densely granulated*, but the granules are wholly innate, having originated from the cuticle being broken up; granules at the first so continuous that the pileus is black; when full grown, however, the granules are so distinct, on account of the small cracks, that the white ground shines through between myriads of them, wherefore the pileus appears as very densely black-dotted. *No* distinct *odour*. Formerly confounded with a form of *A. saponaceus*. Tricholoma.

In grassy places in woods, pastures. Uncommon. Aug.–Nov.

Spores sphærical, 8 mk. *Q*. Name—*cartilago*, cartilage. From its texture. *Bull. t.* 589. *f.* 2. *Fr. Monogr.* i. *p.* 70. *Hym. Eur. p.* 60. *Icon. t.* 33. *Berk. Out. p.* 101. *C. Hök. n.* 59. *Illust. Pl.* 166. *S. Mycol. Scot. n.* 52. *Smith in Seem. Journ. Bot.* iii. *p.* 101.

89. A. loricatus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, sometimes umber, sometimes livid-fuscous, paler round the margin, slightly fleshy, lax, *campanulate then convex*, most frequently undulated, even sinuato-lobed, moist (slightly viscid), smooth, *punctato-rugulose under a lens*, clothed as in a cuirass with a *thick horny* separate *cuticle;* flesh peculiar, *scissile*. **Stem** 5–7.5 cent. (2–3 in.) long, about 6 mm. (3 lin.) thick, *fleshy-fibrous*, but very tough, *somewhat hollow*, twisted, irregular, equal or attenuated downwards, rooted, *brick-fuscous*, *fibrilloso-striate* under a lens. **Gills** quite *free* and separable from the hymenophore, very crowded, ventricose, quite entire, whitish-straw colour.

The *upper cuticle* is 2 mm. (1 lin.) thick, *somewhat horny*, *fuscous*, wholly different from the pith of the stem, which (pith) enters at the centre between the cuticle and the hymenophore which is continuous with the stem. Odour strong, not pleasant, but not soapy.

In mixed woods. Glamis, 1875. Sept.

The flesh of the pileus is simply a prolongation and expansion of the pith of the stem between the horny cuticle and the hymenophore. Name—*lorica*, a leather cuirass. *Fr. Monogr.* i. *p.* 71. *Hym. Eur. p.* 60. *Icon. t.* 35. *f.* 2. *B. & Br. n.* 1503. *S. Mycol. Scot. n.* 53.

90. A. atrocinereus Pers.—**Pileus** 4 cent. (1½ in.) broad, cinereous, the prominent disc darker, fleshy, convexo-plane, smooth, dry, opaque, at first *even* and entire, at length *rimosely incised* and revolute at the margin, but not broken up into scales. **Stem** 5–7.5 cent. (2–3 in.) long, 8 mm. (4 lin.) thick, *stuffed*, internally soft and when moist hyaline, equal, cylindrical, *slightly striate with longitudinally adpressed fibrils, and naked at the apex*, but smooth and whitish. **Gills** sometimes free, sometimes decurrent with a tooth or arcuato-adnexed, more or less *ventricose*, thin, crowded, hyaline-white.

Tricholoma. *Fragile. Odour of new meal.* Flesh of the pileus when the plant is moist obscurely hyaline, *hygrophanous.* Allied to *A. cuneifolius* in its very fragile nature and odour, but larger and distinguished by many marks.

On grassy ground. Hothorpe Norths, &c.

Name — *ater*, black, *cinereus*, ash-coloured. *Pers. Syn. p.* 348. *Fr. Monogr.* i. *p.* 72. *Hym. Eur. p.* 60. *Icon. t.* 31. *f.* 2. *C. Illust. Pl.* 52. *a.*

91. A. cuneifolius Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, fuscous or livid, *slightly fleshy*, convex then plane, obtuse, at length depressed, even, smooth, *then cracked, often concentrically, into broad scales.* **Stem** 2.5–4 cent. (1–1½ in.) long, 2–4 mm. (1–2 lin.) thick, rarely more, *hollow, attenuated downwards,* rarely equal, somewhat fibrillose becoming smooth, *white-pruinose at the apex,* pallid. **Gills** *obovate-wedge-shaped,* very much attenuated behind, slightly adnexed but somewhat decurrent, in front however dilated and obliquely truncate, crowded, connected by veins, fragile, white.

The smallest of this group, very *fragile; odour of new meal.* It is most distinct from the form of the gills and odour.

In pastures, &c. Frequent. Sept.–Nov.

Surface of the pileus rufous where not broken up. *M. J. B.* Spores ellipsoid, 4–6 × 2–3 mk. *K.;* 5 mk. *W. G. S.;* ovoid-pruniform, finely punctate, 5–6 mk. *Q.* Name — *cuneus*, a wedge, *folium*, a leaf. From the shape of the gills. *Fr. Monogr.* i. *p.* 72. *Hym. Eur. p.* 61. *Berk. Out. p.* 102. *C. Hbk. n.* 60. *Illust. Pl.* 52. *b. S. Mycol. Scot. n.* 54. A. cinereo-rimosus *Batsch f.* 206. *C. Illust. Pl.* 261. A. ovinus var. *Bull. t.* 580. *a, b.*

*** Gills changing colour, &c.*

92. A. crassifolius Berk.—**Pileus** 5–10 cent. (2–4 in.) broad, ochraceous, disc umber, fleshy, rather wavy, umbonate, at length often depressed, minutely adpresso-squamulose; flesh very firm. **Stem** 4–5 cent. (1½–2 in.) long, 9 mm. (⅜ in.) thick, solid, nearly equal, pruinose, much paler than the pileus. **Gills** slightly adnexed or nearly free, acute behind, moderately distant, *thick*, at length yellowish, stained with brown.

Gregarious, subcæspitose. Smell rather strong. Sometimes in large old specimens the epidermis cracks in broad scales, but then these are clothed with the smaller ones. The gills have somewhat the appearance of those of *Dædalia betulina.* It does not appear to be viscid in any state.

In fir woods. Uncommon. Oct.

Name — *crassus*, thick, *folium*, a leaf. From the thick gills. *Berk. Out. p.* 100. *C. Hbk. n.* 55. *Illust. Pl.* 92. *Fr. Hym. Eur. p.* 61. A. pachyphyllus *Berk. Eng. Fl.* v. *p.* 16.

93. A. tumidus Pers.—**Pileus** 7.5 cent (3 in.) broad, cinereous-livid, *variegated with tiger-spots*, fleshy, *irregularly shaped, bullate*, then undulated when expanded, and at length *rimosely incised*, moist in rainy weather, somewhat *shining* when dry; margin thin, at first bent inwards, somewhat lobed; flesh white. **Stem** 7.5 cent. (3 in.) long, 18 mm. (¾ in.) thick, *solid*, fleshy-fibrous, *stout*, sometimes *swollen*, smooth, *striate, shining white*, often attenuated into a root at the base. **Gills** emarginate, 12 mm. (½ in.) broad, thicker at the base, *somewhat distant, shining white, at length cinereous-rufescent.* Tricholoma.

Somewhat cartilaginous, at length rigid-fragile. Odour and taste weak, not unpleasant. Its dimensions vary very much; sometimes among the taller mosses the stem is elongated, slender, and the pileus much smaller. Allied to *Clitocybæ difformes.*

In moist pine woods. Coed Coch, &c. Oct.

Spores 4×6 mk. *W.P.* Name—*tumidus*, swollen. *Pers. Syn. p.* 350. *Fr. Monogr.* i. *p.* 74. *Hym. Eur. p.* 62. *S. Mycol. Scot. Supp. Scot. Nat.* vi. *p.* 213. *Krombh. t.* 72. *f.* 1-5. *C. Illust. Pl.* 93.

Var. Keithii Phill. & Plow.—This differs from the type in its cinereo-rufescent pileus, less turgid, dirty-white stem, which has brownish innate fibres, and in being tinged with red, especially near the base.

In some of its characters it agrees with *A. sudus* Fr., from which it differs in its undulating pileus, distant gills and often rooting stem. The whole plant is fragile, the gills have a cinereous tinge, usually at length becoming rufescent. It frequently has a powerful odour of new meal, and is intermediate between *A. sudus* and *A. tumidus*, but is nearer the latter. *Grevillea, vol.* x. *p.* 65.

94. A. murinaceus Bull.—Wholly becoming cinereous. **Pileus** fleshy, thin, campanulate then expanded, silky, rimosely scaly and streaked. **Stem** stuffed, stout, *variegated with minute squamules.* **Gills** broad, distant, undulated, cinereous.

Strong-smelling, large, robust, but fragile. Formerly referred to *Hygrophorus nitrosus*, from which it is very different, although both species agree in the alkaline odour.

In open woods and pastures. Rare. Aug.–Sept.

Pileus 11 cent. (4½ in.) across, at first campanulate, slightly umbonate, then expanded, thin, firm, but very brittle, mouse-coloured, cracked and virgate, silky, not the least viscid; flesh white. Stem 7.5 cent. (3 in.) high, 2.5 cent. (1 in.) thick at the top, cracked and streaked, silky, with minute black scales, solid but fibrous, not the least stuffed or hollow. Gills very broad, undulate, distant, having a tendency to become forked and anastomosing, brittle, often marked with raised lines, cinereous, powdery, interstices slightly veined, edge at length black. Taste bitter, unpleasant; odour not nitrous. *M. J. B.* The plant which I have gathered during several seasons corresponds exactly

Tricholoma. with the figure of Bulliard and with Berkeley's description. The stem is frequently twisted, slightly flattened, with deep longitudinal channels. The figure in Cooke's 'Illustrations' does not represent Bulliard's plant. Spores 5×4 mk. *W.G.S.* Name—*mus*, a mouse. Mouse-coloured. *Bull. t.* 520. *Fr. Hym. Eur. p.* 62. *B. & Br. n.* 261. *Berk. Out. p.* 100. *C. Hbk. n.* 56. *Illust. Pl.* 49.? *S. Mycol. Scot. n.* 55. *Sow. t.* 106.

95. A. virgatus Fr.—**Pileus** grey-cinereous, the umbo often darker, fleshy, but not thick, *rigid*, convex then flattened, somewhat umbonate, very dry even in rainy weather, smooth, becoming even, but *elegantly streaked with fine black lines* (innate fibrils); broken up into squamules when old; margin straight and at the first naked; flesh thin, cinereous-whitish. **Stem** 7.5 cent. (3 in.) and more long, 12 mm. (½ in.) and more thick, *solid*, firm, equal or tuberous at the very base, *striate*, commonly smooth, sometimes squamulose, *whitish*, white within. **Gills** broadly emarginate, 6–10 mm. (3–5 lin.) broad, *crowded, becoming hoary.*

Most distinct. *Inodorous;* taste bitter like gall when young, but flavourless when old. Var. *major* (in beech woods) pileus black-squamulose, the scales separating.

In mixed wood. Forres, &c. Aug.–Oct.

Spores sphæroid or subsphæroid, 6–8×5–6 mk. *K.;* 5–7×4–5 mk. *W.P.;* ellipsoid-sphæroid, punctate, 8–10 mk. *C.B.P.;* ovoid, dotted, 6–7 mk. *Q.* Name—*virga*, a twig or stripe. Streaked. *Fr. Monogr.* i. *p.* 75. *Hym. Eur. p.* 62. *Icon. t.* 34. *f.* 1. *B. & Br. n.* 1504. *S. Mycol. Scot. n.* 56. *C. Illust. Pl.* 167.

IV.—Sericella.

** Gills broad, rather thick, somewhat distant.*

96. A. sulphureus Bull.—**Pileus** 1–10 cent. (½–4 in.) broad, *dingy or rufescent sulphur-yellow*, fleshy, at the first somewhat globose, soon convexo-plane, somewhat *umbonate*, at length depressed, unequal, at the first slightly silky, soon becoming smooth and even. **Stem** 5–10 cent. (2–4 in.) long, 6–8 mm. (3–4 lin.) and more thick, stuffed, somewhat equal but often curved, rather smooth, *striate, sulphur-yellow*, of the same colour and fibrous within. **Gills** adfixed, narrowed behind, arcuato-emarginate, *rather thick, distant*, distinct, brighter *sulphur-yellow* than the pileus.

Gregarious; very variable in dimensions; odour strong, stinking.

In mixed woods. Common. Sept.–Nov.

Odour like that of gas-tar or *Hemerocallis flava. M.J.B.* Probably a dangerous species. Spores 4–5×2–3 mk. *B.* Name—*sulphur*, brimstone. Sulphur-coloured. *Bull. t.* 168. *Fr. Monogr.* i. *p.* 76. *Hym. Eur. p.* 63. *Berk. Out. p.* 102. *t.* 4. *f.* 4. *C. Hbk. n.* 62. *Illust. Pl.* 62. *S. Mycol. Scot. n.* 57. *Sow. t.* 44. *Fl. Dan. t.* 1910. *f.* 1. *Gonn. & Rab. t.* 13. *f.* 2. *Paul. t.* 85. *f.* 3, 4.

97. **A. bufonius** Pers.—**Pileus** umber, fuscous-tan, &c., fleshy, convexo-plane, *somewhat umbonate*, at first slightly silky, soon becoming smooth, *dotted-wrinkled*, opaque. **Stem** stuffed, equal, *flocculose*. **Gills** arcuato-subdecurrent, somewhat distant, yellow-*tan and pallid*. Tricholoma.

Its odour (milder) and stature are the same as those of *A. sulphureus*, but it is more regular in form. Otherwise it does not seem to differ unless in the *darker wrinked-dotted pileus*, the *flocculose stem*, and the *more crowded, paler* (sulphur-tan) *gills*. Pileus becoming black-umber. *Bull. t.* 545. *f.* 2. *O.*

In fir and mixed woods. Uncommon. Sept.–Nov.

Spores subsphæroid, 3–4 × 2–3 mk. *K.* Name—*bufo*, a toad. Pileus like a toad's back. *Pers. Syn. p.* 359. ? *Fr. Monogr.* i. *p.* 77. *Hym. Eur. p.* 63. *B. & Br. n.* 786. *C. Hbk. n.* 63. *Illust. Pl.* 181. *S. Mycol. Scot. n.* 58. *Kalchbr. t.* 39. *f.* 1. Compare *Bull. t.* 545. *f.* 2.

98. **A. lascivus** Fr.—**Pileus** about 5 cent. (2 in.) broad, *pallid-tan*, fleshy, convex then plane, obtuse, at length *somewhat depressed*, delicately silky then becoming smooth, even, dry, margin at first involute; flesh white. **Stem** 5 cent. (2 in.) and more long, *solid*, rigid, wholly fibrous, equal, fibrillose, whitish, *rooted and tomentose at the base*, white-pruinate at the apex. **Gills** arcuato-adnexed, at length arcuato-decurrent (otherwise horizontal), thin, *crowded, white*.

Intermediate between *A. sulphureus* and *A. inamœnus*. Odour the same, but clearly different from both in its crowded gills. The gills are conspicuously thinner and *more crowded* than those of *A. sulphureus*.

In mixed woods. Frequent. Sept.–Nov.

Name—*lascivus*, disgusting. From the smell. *Fr. Monogr.* i. *p.* 77. *Hym. Eur. p.* 64. *Icon. t.* 38. *f.* 1. *Berk. Out. p.* 102. *C. Hbk. n.* 64. *Illust. Pl.* 94. *S. Mycol. Scot. n.* 59. Var. robustus *C. Illust. Pl.* 217.

99. **A. inamœnus** Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, becoming pale, *dingy-white*, fleshy, moderately thin (but flesh compact, shining white), convex then flattened, *somewhat umbonate*, very dry, slightly silky then becoming smooth, even. **Stem** 7.5 cent. (3 in.) and more long, 6–12 mm. (3–6 lin.) thick, solid, firm, equal, rather smooth, *white*. **Gills** variously adfixed, normally emarginate with a decurrent tooth, but sometimes truly adnato-decurrent, plane, *rather thick*, very broad, *very distant*, distinct, *shining white*.

Among mosses the stem is enlarged at the rooted villous base. Odour that of *A. sulphureus*, but stronger, very fœtid. It is distinguished from all neighbouring species by the very distant, shining white gills.

In woods. Frequent. Sept.–Nov.

Tricholoma. Spores sphæroid or ovoid-ellipsoid, 9–11 × 5–7 mk. *K.* Name—*inamœnus*, unpleasant. From the odour. *Fr. Monogr. p.* 78. *Hym. Eur. p.* 64. *Icon. t.* 38. *f.* 2. *Berk. Out. p.* 102. *B. & Br. n.* 1733*. *C. Hbk. n.* 65. *Illust. Pl.* 77. *S. Mycol. Scot. n.* 60. *Sow. t.* 121, otherwise very distinct, exactly represents its habit.

*** Gills thin, crowded, narrow.*

100. A. cerinus Pers.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, *dingy wax-colour*, or becoming fuscous, fleshy, convex then flattened, obtuse and at length depressed, very opaque, very dry, even and becoming smooth; flesh thin, but firm, *white*. **Stem** 2.5 cent. (1 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed*, equal, *fibrillose-striate*, yellow, base smooth (often fuscous). **Gills** sinuato-adnexed, separating, horizontal, plane, very *thin* and *crowded*, 2 mm. (1 lin.) broad, *dark-yellow* or wax colour, but the spores wholly white.

Diminutive, approaching *Clitocybæ* in the structure of the stem, but the gills in properly developed specimens are sinuate. There is one form with the pileus repand, 4 cent. (1½ in.) broad; another smaller, scarcely 2.5 cent (1 in.) with the stem fuscous.

Associated with pine. Glamis, 1877, &c. June–July.

Pileus generally much paler round the margin. Name—*cera*, wax. Wax-coloured. *Pers. Syn. p.* 321. *Fr. Monogr.* i. *p.* 79. *Hym. Eur. p.* 64. *Icon. t.* 39. *f.* 1. *S. Mycol. Scot. n.* 61. *C. Illust. Pl.* 95.

101. A. ionides Bull.—**Pileus** about 5 cent. (2 in.) broad, commonly violet or lilac, fleshy, campanulato-convex then plane, *umbonate*, even, becoming somewhat smooth, *changing colour*, margin at the first flocculose. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed, *elastic*, attenuated, *fibrillose*. **Gills** emarginate with a decurrent tooth, crowded, thin, 6 mm. (3 lin.) broad, eroded, white, becoming paler.

Very changeable in form and colour; the smaller it is the darker, commonly becoming violet or lilac, when smaller fuscous-purple or reddish-livid, becoming pale with age.

In moist woods and open pastures. King's Cliffe, 1860. Aug.

Smell not very decided but pleasant; rather like that of *Lactarius theiogalus*. *B. & Br.* According to Bulliard the stem is swollen at the base. Name—ἴον, a violet. Violet-coloured. *Bull. t.* 533. *f.* 3. *Fr. Hym. Eur. p.* 65. *Syst. Myc.* i. *p.* 107. *B. & Br. n.* 902. *C. Hbk. n.* 66. *Illust. Pl.* 95. A. purpureus *Pers. Bolt. t.* 41. (a very small form).

* **A. pravus** Lasch.—Fuscous-reddish. **Pileus** slightly fleshy, campanulate then expanded, umbonate, silky under a lens.

Stem stuffed then hollow, floccose, attenuated downwards. **Gills** adnexed with a tooth, eroded, white-pulverulent. Tricholoma.

Varying like the type, than which it is smaller, thinner, more fragile; fuscous-purple, lilac-reddish, livid. In a stove. July. *Lasch Linn.* iv. *n.* 532. *Fr. Hym. Eur. p.* 65. *B. & Br. n.* 1191.

102. A. carneus Bull.—**Pileus** 2.5 cent. (1 in.) broad, *red then flesh colour* and at length *becoming white* with a lustre, *thin*, slightly fleshy, at the first hemispherical, then convex and regular, obtuse and at length flattened and reflexed, often with an umbo, commonly repand, even excentric, even, *smooth*, *dry*, in no wise hygrophanous; flesh tough, snow-white. **Stem** 2.5 cent. (1 in.) and less, *attenuated downwards*, 2 mm. (1 lin.), at the apex almost 4 mm. (2 lin.), thick, *toughly fibrous*, *almost cartilaginous*, rigid, at first stuffed then hollow, *flesh-colour then whitish*, somewhat pruinose at the apex. **Gills** *rounded*, somewhat free, horizontal, very *crowded*, broader behind, 2–3 mm. (1–1½ lin.) broad, *very shining white*.

In habit, and in the nature of the stem, it rather approaches *Collybiæ*, but its affinity with other species in this group is manifest.

In fields and by waysides in woods. Frequent. Sept.–Oct.

Pileus of a rufous-pink, minutely squamulose, often splitting. *M. J. B.* In 'Hymenomycetes Europæi.' Fries gives *A. carneus* Bull. = *A. pœonius* Fr. Monogr. i. p. 81, and *A. carneolus* Fr. = *A. carneus* Bull., Monogr. i. p. 81. On the authority of Berkeley, whose opinion I can fully confirm, the change in 'Hym. Eur.' must be regarded as an error. The plant described in 'Monographia' as *A. carneus* is the true plant of Bulliard. Spores 3 × 2 mk. *W.G.S.* Name—*caro*, flesh. Flesh-coloured. *Bull. t.* 533. *f.* 1. *Fr. Monogr.* i. *p.* 81. *Berk. Eng. Fl.* v. *p.* 30*. *Out. p.* 103. *C. Hbk. n.* 68. *Illust. Pl.* 96. *a. S. Mycol. Scot. n.* 62. A. carneolus *Fr. Hym. Eur. p.* 65. *Icon. t.* 40. *f.* 3.

103. A. cælatus Fr.—**Pileus** not exceeding 2.5 cent. (1 in.) in breadth, fuscous, pale-grey when dry but not hygrophanous, slightly fleshy, convex, *umbilicate*, without striæ, when fresh smooth, but *in becoming dried flocculose*, *rimosely scarred*. **Stem** 2.5 cent. (1 in.) or less in length, 2–3 mm. (1–1½ lin.) thick, tough, elastic, but not cartilaginous, when smaller *stuffed*, when larger hollow, the internal walls villous, equal or slightly thickened at the apex, *fuscous*, *obsoletely pruinate at the apex*. **Gills** sinuato-adnate with a small decurrent tooth, crowded, slightly arcuate, dingy-whitish or *grey*.

Inodorous. The spores are dingy-white. A very peculiar species, remarkable in its whole habit, and not to be compared with any other species of *Tricholoma*. At first sight one might regard it as a species of *Omphalia* on account of the pileus being constantly umbilicate; but the stem is by no means

Tricholoma. cartilaginous, and the gills are manifestly sinuate behind. Species truly allied occur only among *Clitocybæ*, for example *A. hirneolus* and *A. parilis*, with which it agrees in stature, colour, and dingy white spores, but these have decurrent gills.

In woods. Charmy Down, 1867, &c. April–July.

Spores subglobose, 8×4 mk. *B. & Br.* Name—*cælum*, a sculptor's chisel. From the chiselled markings on the pileus. *Fr. Monogr.* i. *p.* 82. *Hym. Eur. p.* 66. *Icon. t.* 37. *f.* 2. *B. & Br. n.* 1192. *S. Mycol. Scot. n.* 63. *C. Illust. Pl.* 96 *B.*

SERIES B.

V.—GUTTATA.

* *Gills whitish.*

104. A. gambosus Fr.—**Pileus** 7.5–10 cent. (3–4 in.) and more broad, *becoming pale-tan*, fleshy, *hemispherico-convex, then flattened*, obtuse, undulated and repand, even, smooth, but *spotted as with drops*, at length widely cracked (not, however, torn into squamules), the *margin at the first involute and tomentose;* flesh thick, soft, fragile, white. **Stem** 5 cent. (2 in.) and more long, 1–2.5 cent. (½–1 in.) thick, *solid*, fleshy-firm, almost *equal*, often curved-ascending at the base, *white, villous at the apex.* **Gills** rounded- or emarginato-adnexed, with a somewhat decurrent tooth and when old sinuato-decurrent, *crowded*, ventricose, 4–6 mm. (2–3 lin.) broad, *whitish.*

Odour pleasant, *of new meal.* Often forming large rings or clusters. A whitish form must not be confounded with *A. albellus.*

In meadows, &c. Frequent. April–July.

Spores 13×11 mk. *W.G.S.* Smell strong like that of *Polyporus squamosus. M.J.B.* Edible; considered by some delicious, by others less delicate in flavour. It should be gathered in dry weather. Known as St George's mushroom. Worthington Smith says it is fit for any saint in the calendar. Much esteemed in France and Italy. Its early appearance makes it more valuable, but it is unfortunately not so common as could be wished. It is less frequent in Scotland than in England. Badham describes it under the name of *A. prunulus.* He remarks that when the ring begins to break up into irregular lines, it is a sign of its disappearance from the place, just as the presence of an unbroken ring is conclusive of a plentiful harvest the next spring. Name—*gamba*, a hoof. *Fr. Monogr.* i. *p.* 82. *Hym. Eur. p.* 66. *Sverig. ätl. Sv. t.* 9. *Berk. Out. p.* 104. *t.* 4. *f.* 5. *C. Hbk. n.* 69. *Illust. Pl.* 63. *Hussey* i. *t.* 83. *Krombh. t.* 63. *f.* 18, 22 ochraceous. *Ventur. t.* 4. *Gonn. & Rab. t.* 18. *f.* 3. A. prunulus *Badh.* i. *t.* 1. ii. *t.* 1 *f.* 1. A. graveolens *Sow. t.* 281. A. pomonæ *Lenz. f.* 13.

105. A. albellus Fr.—**Pileus** about 7.5 cent. (3 in.) broad, becoming pale-white, passing into grey when dry, fleshy, thick at

the disc, thinner at the sides, *conical then convex*, gibbous when expanded, when in vigour moist on the surface, *spotted as with scales*, the thin margin naked; flesh soft, floccose, white, unchangeable. **Stem** curt, 4–5 cent. (1½–2 in.) long, 2.5 cent. (1 in.) thick at the base, reaching 12 mm. (½ in.) towards the apex, *solid*, fleshy-compact, *ovato-bulbous*, (conical to the middle, cylindrical above the middle), *fibrilloso-striate*, white. **Gills** very much *attenuated behind*, not emarginate, *becoming broad in front*, very crowded, quite entire, white. Tricholoma.

Pileus not becoming yellow. Odour weak when fresh, taste pleasant, almost that of cooked flesh. There are two forms: one larger, solitary, another smaller, connato-cæspitose, quite as in A. albellus *Sow. t.* 122. It is often confounded with smaller forms of *A. gambosus*.

In woods. Rare. April–May.

Spores very small, ovoid, 3 mk. *W.G.S.* Name—diminutive, *albus*, white. Whitish. *Fr. Monogr.* i. *p.* 83. *Hym. Eur. p.* 67. *Berk. Out. p.* 104. *C. Hbk. n.* 70. *Illust. Pl.* 229. *Smith in Seem. Journ. Bot. t.* 46. *f.* 45. *Gonn. & Rab. t.* 15. *f.* 3. A. pallidus *Schæff. t.* 50.? *Tratt. Austr. t.* 20.

*** Gills changing colour, &c.*

106. A. amethystinus Scop.—**Pileus** fleshy, convexo-plane, obtuse, repand, smooth, even, moist, *spotted azure-blue*, margin wrinkled, paler. **Stem** solid, curt, attenuated at the base. **Gills** somewhat adnate, crowded, white then rufescent.

Not well defined or sufficiently known.

In pine wood. Glamis, 1875. Sept.

Pale, with here and there a tinge of mouse-colour. Spots bluish-violet, mostly confined to the disc. Of a somewhat faded appearance even when fresh. Name—*amethystus*, the amethyst. From the spots on the pileus. *Scop. Carn.* ii. *p.* 437. *Fr. Hym. Eur. p.* 68. *B. & Br. n.* 1733. *S. Mycol. Scot. n.* 66. *C. Illust. Pl.* 262.

107. A. tigrinus Schæff.—**Pileus** 5 cent. (2 in.) broad, pallid brown, variegated with crowded and *darker* (*fuscous*) *spots*, compactly fleshy, convex then expanded, obtuse, repand; flesh thick, firm, white, unchangeable, but thin at the involute margin. **Stem** 2.5 cent. (1 in.) long and thick, very compact, solid, pruinate, white. **Gills** rounded behind, at length decurrent with a tooth, crowded, narrow, white, at length darker.

Solitary or cæspitose. Very distinguished, obese, and without any marked smell of new meal.

In fir woods and open grassy ground. Rare. June–July.

Tricholoma. Allied to *A. gambosus*. *B. & Br.* Fries remarks that the plant of Schæffer differs in the longer stem, in the pileus being conical then expanded, becoming hoary-white, and in the gills being at length distant, but that there can be no doubt they are the same. My specimens agreed exactly with the description of Fries. Forming a large ring on a grassy place on the shore of an estuary. Name—*tigris*, a tiger. Spotted like a tiger. *Schæff. t.* 89. *Fr. Icon. t.* 41. lower fig. *Hym. Eur. p.* 68. *B. & Br. n.* 1636. *S. Mycol. Scot. n.* 67. *C. Hbk. n.* 73. *Illust. Pl.* 64. *Gonn. & Rab. t.* 13. *f.* 2.

VI.—Spongiosa.

* *Gills not changing colour.*

108. A. Schumacheri Fr.—**Pileus** 7.5 cent. (3 in.) broad, of one colour, cinereous-livid, fleshy, *compact*, convex then flattened, obtuse, regular, well formed, even, smooth, moist (not hygrophanous) in rainy weather, the slight margin, which exceeds the gills, inflexed; flesh spongy, *white*. **Stem** 7.5–10 cent. (3–4 in.) long, as much as 12 mm. (½ in.) thick, *solid*, *stout*, equal, villous and sometimes ventricoso-bulbous at the base, otherwise naked, *slightly striate*, *white*, externally fibrous. **Gills** emarginate, very crowded, plane, 6–8 mm. (3–4 lin.) broad, white.

Its entire nature and structure are those of *A. personatus*, and it can only be compared with *A. nebularis* on account of the colours (the pileus being cinereous, naked however). The stem being wholly fleshy and the gills being at the first emarginate, evidently determine it a *Tricholoma*.

In a hothouse. Apethorpe, Norths., &c.

Agreeing very closely with the figure in 'Fl. Dan.' especially as regards the gills. *B. & Br.* Name—after Schumacher. *Fr. Monogr.* i. *p.* 85. *Hym. Eur. p.* 69. *B. & Br. n.* 1927. *Fl. Dan. t.* 2267. *f.* 1. *C. Illust. Pl.* 168.

109. A. patulus Fr.—**Pileus** 6–10 cent. (2½–4 in.) broad, *pallid-cinereous*, *fleshy*, firm, convexo-plane, obtuse, often repand, even, smooth, in no wise tiger-spotted; flesh *moderately thin*, not compact, white. **Stem** 5–10 cent. (2–4 in.) long, 1–2.5 cent. (½–1 in.) thick, fleshy-fibrous, *solid*, *firm*, equal, somewhat elastic, *smooth*, *shining white*. **Gills** constantly and equally emarginate, almost free, *crowded*, comparatively narrow, 4 mm. (2 lin.), plane, *somewhat veined* at the sides, *whitish*.

Inodorous. Solitary or growing in troops, or somewhat cæspitose. The colour of the pileus passes into very pale yellowish. It cannot be compared with any of the neighbouring *Tricholomata*, but rather with the irregularly shaped *Clitocybæ*, especially when cæspitose. It must not be confounded with *A. decastes*. Dependent on the weather; very luxuriant in some rainy seasons, absent in very dry ones.

On the ground in woods. Reigate, Surrey, 1870. Oct.

Name—*patulus*, spread out, wide. *Fr. Monogr.* i. *p.* 87. *Hym. Eur. p.* 69. *Icon. t.* 37. *f.* 1. *Saund. & Sm. t.* 48. *f.* 1. *C. Illust. Pl.* 279.

110. A. arcuatus Bull.—**Pileus** rufous-fuscous, becoming pale, disc blackish, flattened, somewhat gibbous, soft, even, smooth, moist, discoid; margin thin, at the first inflexed; *the flesh coloured.* **Stem** solid, firm, fibrilloso-squamulose, blackish downwards, bulbous. **Gills** arcuato-adnate (decurrent with a tooth) and *arcuate,* somewhat undulated, fragile, crowded, white. Tricholoma.

Gregarious. Pileus "almost viscid." Stem sometimes remarkably marginatô-bulbous. *Sterb. t. 7. C.*

On grassy ground. St Andrews, 1877, &c. Oct.–Nov.

Pileus 5–7.5 cent. (2–3 in.) broad. Stem about 4 cent. (1½ in.) long, 12 mm. (½ in.) thick. Name — *arcus,* a bow. From the bow-shaped gills. *Bull. t.* 443 figures with scaly stem. *Fr. Hym. Eur. p.* 70. *Monogr.* i. *p.* 86, partly. *S. Mycol. Scot. n.* 68. *C. Illust. Pl.* 218.

111. A. oreinus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *fuscous-livid,* fleshy, compact, convex, obtuse, even, smooth, the thin margin not exceeding the gills; flesh white. **Stem** scarcely 2.5 cent. (1 in.) long, 4–8 mm. (2–4 lin.) thick, solid, equal, but thickened at the base as with a small bulb and at length ochraceous, *white-squamulose at the apex,* internally fibrillose. **Gills** *rounded* then free, 4–6 mm. (2–3 lin.) broad, crowded, plane, white.

Solitary. Inodorous. It differs from *A. humilis* in not being hygrophanous, and in the gills running out of equal breadth as far as the margin. The uppermost and lowest in stature of the figures of *Bull. t.* 443 shows the form sufficiently well.

On heath and open ground. King's Cliffe.

Name—ὀρεινός, hilly. From its being found on mountainous heaths. *Fr. Hym. Eur. p.* 70. *Monogr.* i. *p.* 86. *C. Illust. Pl.* 218. A. testudineus *Pers. Myc. Eur. p.* 218. *t.* 23. *f.* 1, 2.

112. A. albus Schæff.—Wholly white. **Pileus** 7.5–10 cent. (3–4 in.) broad, truly fleshy, not compact, tough, convex then flattened, becoming plane, obtuse, very dry, even, smooth, margin at the first involute at length repand. **Stem** 7.5 cent. (3 in.) long, 12 mm. (½ in.) and more thick, *solid,* attenuated upwards, somewhat bulbous, *wholly fibrous,* tougher externally, elastic, naked, slightly mealy at the apex only under a lens. **Gills** emarginate, somewhat crowded, distinct, when full grown 8 mm. (4 lin.) broad, unchangeable.

Stature very variable, sometimes very robust, sometimes moderately slender. Odour weak or none, with an unpleasant acrid taste. Not hygrophanous; the pileus when dried becoming yellow often throughout or only at the disc. All its forms (possibly including distinct species) are distinguished by their

Tricholoma. habit which is that of *Clitocybe*, by their *elastic stem*, and by the *pileus not being moist even in rainy weather*, a feature which constitutes a departure from the spongy *Tricholomata*, as well as by their *white* colour.

In woods. Frequent. Sept.–Nov.

Care should be taken not to confound it with various edible species of the same colour. From its acrid taste, which easily distinguishes it, it is perhaps poisonous. Spores 3×6 mk. *W.G.S.*; 5–6×2–3 mk. *B.* Name — *albus*, white. *Schæff. t.* 256 (a thin form). *Fr. Monogr.* i. *p.* 91. *Hym. Eur. p.* 70. *Icon. t.* 43. *f.* 1. *Berk. Out. p.* 105. *t.* 4. *f.* 6. *C. Hbk. n.* 74. *Illust. Pl.* 65. *S. Mycol. Scot. n.* 69. A. leucocephalus *Bull. t.* 536. *Battar. t.* 20. *f.* 1.

113. A. leucocephalus Fr.—*Wholly white* without any yellowish tinge. **Pileus** 4 cent. (1½ in.) broad, fleshy, *thin*, tough, convexo-plane, obtuse, even, moist, smooth in itself, but *when young covered with shining whitish, adpressed, silky, at length separating villous down;* margin acute, spreading, smooth; flesh compact, watery in wet weather. **Stem** scarcely 5 cent. (2 in.) long, 6 mm. (3 lin.) thick, *hollow*, fleshy fibrous, but polished externally, *somewhat cartilaginous*, *rooting* at the attenuated solid base, twisted, even, smooth. **Gills** *rounded-free*, *crowded*, thin, quite entire, shining white.

Strong odour of new meal. Plainly different from *A. albus*, allied to *A.* (*Armill.*) *constrictus*, but from its somewhat cartilaginous stem inclining to *Collybiæ*, just as *A. albus* does to *Clitocybæ*.

In woods among leaves. Bowood, Wilts. Oct.

Name—λευκός, white, κεφαλή, head. *Fr. Monogr.* i. *p.* 92. *Hym. Eur. p.* 71. *Icon. t.* 43. *f.* 2, not *Krombh. B. & Br. n.* 1505. *C. Illust. Pl.* 78.

*** Gills changing colour.*

114. A. acerbus Bull.—**Pileus** becoming yellow-white, pale-yellowish, then smeared with rufous or fuscous colour, fleshy, convexo-expanded, smooth, moist, somewhat tiger-spotted, the thin *margin wrinkled-sulcate.* **Stem** solid, obese, becoming light-yellow, squamulose at the apex. **Gills** emarginate, crowded, pallid then rufescent.

Large, robust, with an unpleasant odour and bitter taste. The stem is commonly bulbous, but sometimes attenuated at the base.

In shady woods. Frequent. Aug.–Sept.

Margin of pileus involute. Flesh firm, snow-white. Stem squamulose or roughened with small warts at the apex. *Bull.* Pileus 7.5–10 cent. (3–4 in.) broad. *M.J.B.* Spores 4 mk. *W.G.S.* Name—*acerbus*, bitter. From the taste. *Bull. t.* 571. *f.* 2. *Fr. Hym. Eur. p.* 71. *Berk. Out. p.* 105. *C. Hbk. n.* 75. *Illust. Pl.* 76. *S. Mycol. Scot. n.* 70. *Saund. & Sm. t.* 48. *f.* 2. *Ventur. t.* 38. *f.* 7, 8.

115. A. militaris Lasch.—**Pileus** 10–17.5 cent. (4–7 in.) broad, *cinnamon*, at first gibbous, white floccose at the involute margin, then rather plane or depressed, *compact*, flexuous, rather smooth, viscous, margin even. **Stem** 11 cent. (4½ in.) long, as much as 2.5 cent. (1 in.) thick, solid, squamulose, fibrillose, pallid, somewhat bulbous at the base, with thick radical fibrils. **Gills** emarginate, somewhat crowded, whitish, at length *livid-spotted*, torn. Tricholoma.

Odour and taste unpleasant. Commonly growing in rows or cæspitose.

In woods. Glamis, 1874. Oct.

Name—*miles*, a soldier. From its finer appearance as contrasted with *A. civilis*, as *A. equestris* is a knight among plebeians. *Lasch n.* 490. *Fr. Hym. Eur. p.* 71. *B. & Br. n.* 1506. *S. Mycol. Scot. n.* 71. *C. Illust. Pl.* 169.

116. A. civilis Fr.—**Pileus** 7.5 cent (3 in.) broad, *becoming pale yellowish*, not changing colour, disc darker, never streaked, truly fleshy, very *soft* and fragile, convexo-plane, obtuse, even, very smooth, moist, almost viscid, *with a separable pellicle;* flesh spongy, whitish. **Stem** 5 cent. (2 in.) and more long, *solid*, internally *soft, fragile*, attenuated upwards from the thickened base, *fibrillose* or squamulose, whitish. **Gills** deeply emarginate, *almost free, crowded*, 6 mm. (3 lin.) broad, very soft, *white then becoming yellow*, or rather becoming pale, unspotted.

Inodorous. Among the *Tricholomata* there is no species to which it is rightly allied. The structure is wholly that of *A.* (*Am.*) *lenticularis*, so that at first sight it might seem to be a ringless form of that species.

On the ground. Epping. Oct.

Fries notes that the gills are only accidentally spotted, *i.e.*, when injured by insects or otherwise. Name—*civis*, a citizen. Contrasted with *A. militaris*. *Fr. Hym. Eur. p.* 71. *Icon. t.* 42. *f.* 1. A. militaris *Monogr.* i. *p.* 90. *B. & Br. n.* 1507.

117. A. personatus Fr.—**Pileus** 7.5–15 cent. (3–6 in.) broad, livid-flesh-colour, &c., very fleshy and *thick*, hemispherical then convex and flattened, very obtuse, regular, at length also repand, even, smooth, moist in rainy weather, opaque when dry, the *margin*, which exceeds the gills, at first involute and *villoso-pruinose;* flesh at first compact, then spongy-soft, whitish. **Stem** in the typical form 5 cent. (2 in.) long, about 2.5 cent. (1 in.) thick, solid, firm, spongy within, almost of the same colour, *more or less bulbous, becoming violet, wholly pulverulent with white villous down when young* then squamulose; often very short, and not bulbous. **Gills** rounded then free, *crowded*, broad, *violaceous then flesh-coloured or whitish*, or fuscous when old.

Tricholoma. Solitary or gregarious, scarcely cæspitose. Stature always *robust*, *obese*, but colour very changeable and variable. A. pileus cinereus, *Sow.* B. pileus lilac *Fr.* C. pileus and gills white, stem violaceous *Berk.* In a very obese form it has been found becoming wholly cinereous-livid. In late autumn taller, becoming wholly fuscous, with a sulcate, fibrillose stem as much as 10 cent. (4 in.) long, and very broad gills.

In woods and pastures. Common. Oct.–Nov.

Sometimes confounded carelessly with *Cortinarius violaceus*. It is sometimes difficult to distinguish brightly coloured specimens from *A. nudus*. *M. J. B.* Edible. Known in England by the name of "Blewitts," which Badham conjectures means "Blue-hats." It is excellent when gathered in dry weather. When wet it absorbs too much moisture. Spores sphæroid-ellipsoid, 11×6 mk. *K.;* 8×4 mk. *B.;* 5×4 *W.G.S.;* 7×5 mk. *W.P.* Name—*persona*, a mask. From the margin of the pileus and stem as compared with *A. nudus*. *Fr. Monogr.* i. *p.* 88. *Hym. Eur. p.* 72. *Sverig. ätl. Sv. t.* 57. *Berk. Out. p.* 105. *t.* 5. *f.* 1 (var. anserina). *S. Mycol. Scot. n.* 72. *Gonn. & Rab. t.* 16. *Hussey* ii. *t.* 40. *Badh.* i. *t.* 8. *f.* 1. ii. *t.* 1. *f.* 2. *C. Illust. Pl.* 66. Lepista personata *C. Hbk. n.* 546. A. violaceus *Sow. t.* 209. *Fl. Dan. t.* 1133. *Bolt. t.* 147. A. hepaticus *Weinm. Paul. t.* 91. *f.* 1-4. *Buxb. C.* 4. *t.* 11.

118. A. nudus Bull.—**Pileus** about 7.5 cent. (3 in.) broad, becoming purple-violaceous then changing colour, rufescent, fleshy, comparatively *thin*, convexo-plane then *depressed*, obtuse, even, smooth, with a pellicle which is moist and manifest in rainy weather; margin inflexed, thin, naked; flesh thin, pliant, coloured. **Stem** about 7.5 cent. (3 in.) long, 12 mm. (½ in.) thick, *stuffed*, *elastic*, equal, *almost naked*, mealy at the apex, *violaceous then becoming pale*. **Gills** rounded then decurrent (on account of the depressed pileus), crowded, narrow, of the same colour as the pileus or deeper *violaceous*, but soon changing colour, *at length rufescent* without the least tinge of violet.

Always *thinner* than *A. personatus*, with a pleasant acid odour. Often confounded with *A. sordidus*.

In woods, chiefly among pine. Frequent. Sept.–Nov.

Brighter coloured than *A. personatus M. J. B.* Not recommended as edible. Spores 6–8×4 mk. *B.;* 6×3 mk. *W.G.S.* Name—*nudus*, naked. Contrasted with *A. personatus*. *Bull. t.* 439. *Fr. Monogr.* i. *p.* 89. *Hym. Eur. p.* 72. *Berk. Out. p.* 105. *t.* 4. *f.* 7. *S. Mycol. Scot. n.* 73. *Krombh. t.* 71. *f.* 27-29. *Price t.* 5. *f.* 35. *Hoffm. Analyt. t.* 11. *f.* 1. *C. Illust. Pl.* 67. Var. major, *Pl.* 133. Lepista personata *C. Hbk. n.* 544.

119. A. cinerascens Bull.—**Pileus** 5–7.5 cent. (2–3 in.) and more broad, white then *becoming cinereous* or hoary, fleshy, convex then flattened, obtuse or when young gibbous, orbicular, regular, even, dry; flesh white, compact at the disc, thin at the circumference. **Stem** 7.5 cent. (3 in.) long, 4 cent. (1½ in.) and more thick, solid, internally spongy, the external wall fibrous and tough, hence elastic, equal or slightly thickened at the base, smooth, naked,

whitish; flesh becoming fuscous. **Gills** *easily separating from the hymenophore*, rounded-free, crowded, broad, 4–6 mm. (2–3 lin.), fragile, white then becoming cinereous, darker than the pileus. Tricholoma.

Very various in stature. Gregarious. The stem is sheathed at the base in a peculiar manner with the floccose, compact, white mycelium. It might perhaps be regarded as a species of *Paxillus*, on account of the gills easily separating from the hymenophore.

In woods. Frequent. Aug.

Smell rather disagreeable, pungent; the stem, however, when broken smells like new meal. *B. & Br.* Spores 5 mk. *W.P.* Name — *cinis*, ashes. Becoming ash-colour. *Bull. t.* 428. *f.* 2. *Fr. Monogr.* ii. *p.* 287. *Hym. Eur. p.* 73. *Berk. Out. p.* 106. *B. & Br. n.* 787. *S. Mycol. Scot. n.* 74. *Vivian t.* 20. *C. Illust. Pl.* 170. Lepista *C. Hbk. n.* 545.

120. A. panæolus Fr.—**Pileus** about 7.5 cent. (3 in.) broad, cinereous-fuliginous, *variegated with grey-pruinose spots* and often guttate, fleshy, not thick, but firm, convex then *becoming plane* or here and there depressed, obtuse, here and there repand and excentric, even; flesh alike of the pileus and stem spongy, absorbing moisture, *white when dry*, but the pileus by no means hygrophanous. **Stem** 2.5 cent. (1 in.) or little more long, 12 mm. (½ in.) thick, *solid*, tough, *elastic*, externally fibrous, internally spongy, smooth, *naked*, unpolished, whitish-grey. **Gills** emarginate or rounded, at length somewhat decurrent when the pileus is depressed, very *crowded*, quite entire, *plane*, 4 mm. (2 lin.) broad, *white then grey* or dingy rufescent.

Odour none. The spotting on the pileus gives it a marbled appearance.

In grassy places. Street, Somerset, &c. Autumn.

Spores 3 × 5 mk. *W.P.* Name—παναίολος, variegated. *Fr. Monogr.* i. *p.* 87. *Hym. Eur. p.* 73. *Icon. t.* 36. *f.* 2. *C. Illust. Pl.* 97.

121. A. duracinus Cke.—**Pileus** 7.5 cent. (3 in.) diameter, cinereous, fleshy, compact, firm, convex, broadly umbonate, dry, smooth, shining, margin involute. **Stem** 7.5 cent. (3 in.) long, attenuated upwards, 3 cent. (1¼ in.) thick at the base, nearly 2.5 cent. (1 in.) at the apex, solid, striate below, reticulate squamose above, rather paler than the pileus; flesh nearly white. **Gills** *narrow*, little more than 2 mm. (1 lin.) broad, crowded, emarginate, arcuate, *cinereous*.

Fleshy disc nearly an inch thick. Whole fungus cinereous and firm. Allied to *A. tigrinus* Fr.

On the ground under cedar. Kew, 1883. Oct.

Name—*durus*, hard, *acinus*, berry. *Grevillea*, *vol.* xii. *p.* 41.

Tricholoma.

VII.—Hygrophana.

** Gills whitish unspotted.*

122. A. grammopodius Bull.—**Pileus** 7.5–15 cent. (3–6 in.) broad, *pallid-livid* or fuscous-rufous when moist, whitish when dry, fleshy, very thin towards the margin, *campanulate then convex*, and at length flattened, obtusely umbonate, even, smooth, pellicle moist in rainy weather, not viscous, separating; flesh-coloured when moist, white when dry, soft, fragile. **Stem** *tall*, about 7.5–10 cent. (3–4 in.) long, 12 mm. (½ in.) and more thick, *solid*, elastic, equal with exception of the *thickened base*, cylindrical, firm, smooth, *evidently longitudinally sulcate, whitish.* **Gills** arcuato-adnate, or broadly horizontally emarginate, acute at both ends, *very crowded, quite entire*, very many shorter, somewhat branched behind, white.

Odour mouldy. Striking in appearance; the chief of this group. There is a variety wholly white.

In pastures and grassy woods. Frequent. June–Oct.

Stem streaked with same colour as the pileus, and white-villous at the base. Name—γραμμή, a line, πούς, a foot. From the stem being marked with lines. *Bull. t.* 548, 585. *f.* 1. *Fr. Monogr.* i. *p.* 92. *Hym. Eur. p.* 74. *Berk. Out. p.* 106. *C. Hbk. n.* 76. *Illust. Pl.* 98. *S. Mycol. Scot. n.* 75. *Hussey* ii. *t.* 41.

123. A. melaleucus Pers.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, *commonly becoming black-fuliginous when moist*, then fuscous-livid, becoming pale when dry, fleshy, soft, *convex then flattened*, obsoletely umbonate, even, smooth; flesh *soft, white*, not hygrophanous. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm (2–3 lin.) thick, *stuffed* then hollow, *rigid-fragile*, elastic when young, somewhat thickened at the base, *naked* (not pulverulent), but *fibrillose-striate, whitish*, with darker striæ. **Gills** emarginato-adnexed, crowded, *horizontal, straight*, broad, more or less ventricose, *quite entire, white.*

Very protean and changeable in colour. The gills are not arcuato-scythe-shaped as in *A. arcuatus*, and the flesh does not become yellow as in that species. It varies with the gills becoming yellow. It must be carefully distinguished chiefly from *A. oreinus.*

On grassy ground. Uncommon. Sept.

Spores ellipsoid-sphæroid, 6–8 × 4–5 mk. *K.* Name—μελάς, black, λευκός, white. *Pers. Syn. p.* 355. *Fr. Monogr.* i. *p.* 93. *Hym. Eur. p.* 74. *Icon. t.* 44. *f.* 1. *Berk. Out. p.* 106. *C. Hbk. n.* 77. *Illust. Pl.* 119. *A. S. Mycol. Scot. n.* 76. *Buxb. C.* iv. *t.* 12. *f.* 2.

* **A. porphyroleucus** Bull. Firmer; pileus fleshy, fuliginous

or fuscous then rufescent, with a darker and vanishing umbo; stem solid, somewhat fibrillose, sometimes elongated, sometimes curt; gills white.

Coed Coch, 1881. *Bull. t.* 443, the rufescent figures with smooth stem. *Fr. Hym. Eur. p.* 75. *B. & Br. n.* 1928, the long-stemmed form. *C. Illust. Pl.* 119. *B.*

124. A. brevipes Bull.—**Pileus** about 5 cent. (2 in.) broad, *umber then becoming pale*, fleshy, *soft, convex then becoming plane*, even, smooth, moist (opaque when dry); flesh of the pileus *becoming fuscous* when moist, becoming white when dry. **Stem** *solid*, very *rigid*, at length fibrous, *pruinate at the apex, externally and internally fuscous;* otherwise very variable, sometimes *very short*, 4–6 mm. (2–3 lin.) only long and thick, attenuated downwards; commonly 2.5 cent. (1 in.), sometimes bulbous, sometimes equal, more slender. **Gills** emarginato-free, *crowded*, ventricose, disappearing short of the margin, quite entire, becoming fuscous then whitish.

Solitary. *Inodorous.* The pileus is often stained with soil. Nearer to *A. arcuatus* than to *A. humilis.* The affinity between *A. arcuatus, A. panæolus, A. grammopodius, A. melaleucus,* and *A. humilis,* is greater than between other species of *Tricholomata.*

In open woods, fields, &c. Uncommon. June–Oct.

Spores 6×8 mk. *W.G.S.;* 8×5 mk. *W.P.;* 8-10×5–6 mk. *B.* Name—*brevis*, short, *pes*, a foot. Short-stemmed. *Bull. t.* 521. *f.* 2 (young). *Fr. Monogr.* i. *p.* 94. *Hym. Eur. p.* 75. *B. & Br. n.* 1195. *C. Hbk. n.* 78. *Illust. Pl.* 68. *S. Mycol. Scot. n.* 77. *Paul. Ch. t.* 44. *f.* 1, 2. *Fl. Bat. t.* 1095. *Klotsch. Fl. Bor. t.* 374. *Buxb. C.* iv. *t.* 31. *f.* 1.

125. A. humilis Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, fuscous-cinereous, &c., fleshy, *convex* then soon *flattened*, somewhat repand, sometimes umbonate, even, smooth, sometimes depressed, the thin margin exceeding the gills; flesh soft, becoming cinereous when moist, whitish. **Stem** 2.5–5 cent. (1–2 in.) long, about 12 mm. (½ in.) thick, *stuffed*, at length also hollow, soft, fragile, *somewhat equal, wholly pulverulento-villous, becoming cinereous-whitish.* **Gills** rounded-adnexed, decurrent with a tooth, and occasionally arcuato-decurrent, crowded, 4–6 mm. (2–3 lin.) broad, whitish.

The pileus changes colour with the moisture of the atmosphere and with age, *blackish, fuscous, livid*, pallid. In dry weather it is sometimes sprinkled with thin white dust (the remains of the veil). Allied to *A. brevipes*, but the stem is thinner, longer, and softer. Protean, gregarious, often cæspitose (*A. brevipes* always solitary). A *very fragile* variety occurs with the pileus paler, the stem longer hollow and fibrillose, and the gills narrower.

In open woods, &c. Frequent. Aug.–Oct.

Tricholoma. Spores ellipsoid-sphæroid, 7–8 × 5–6 mk. *K.* Name — *humilis*, low. Dwarf in stature. *Fr. Monogr.* i. *p.* 95. *Hym. Eur. p.* 75. *Berk. Out. p.* 106. *C. Hbk. n.* 79. *Illust. Pl.* 99, 263 *A. S. Mycol. Scot. n.* 78. *Buxb. Cent.* iv. *t.* 32. A. blandus *Berk. Eng. Fl. p.* 20. Var. blandus *C. Illust. Pl.* 263. *B.*

126. A. exscissus Fr.—**Pileus** 2.5 cent. (1 in.) broad, mouse-colour or *fuscous-cinereous, not changing colour* when dry, but shining, *slightly fleshy, campanulate when young*, soon plane, with a prominent umbo, even, smooth; flesh thin, white. **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, *solid, thin*, wholly *equal*, polished, *very smooth*, slightly shining, *shining white*. **Gills** emarginate, crowded, *linear*, not beyond 2 mm. (1 lin.) broad, *shining white*.

Very regular, in dry weather sprinkled with the pulverulent veil, but never silky. Very closely allied to *A. humilis*, &c., although by habit and thinness it appears at first sight to be widely removed from them.

In pastures, &c. Cromer, 1882. May.

Name—*excindo*, to tear out. Perhaps in the same sense as excisus. Of the gills. *Fr. Monogr.* i. *p.* 95. *Hym. Eur. p.* 75. *Icon. t.* 44. *f.* 2. *C. Illust. Pl.* 171.

127. A. subpulverulentus Pers.—**Pileus** about 4 cent. (1½ in.) broad, becoming livid when fresh, fleshy, convex then plane or depressed, even, *with innate pruinose dew, becoming hoary white*, the slight margin, which exceeds the gills, inflexed. **Stem** 5 cent. (2 in.) long, 6 mm. (3 lin.) thick, solid, equal, *smooth, somewhat striate*, here and there ascending, under a lens obsoletely pruinate at the apex. **Gills** rounded (without a tooth), crowded, narrow, white.

Firm; flesh hygrophanous. The pileus is not occasionally pulverulent as in previous species, though it becomes hoary with innate pruina.

In pastures and woods. Frequent. Aug.–Oct.

Spores 3 × 4 mk. *W.G.S.*; pruniform, granular, 8 × 9 mk. *Q.* Name—*sub*, and *pulvis*, dust. Somewhat powdered. *Pers. Myc. Eur.* 3. *p.* 221. *Hym. Eur. p.* 76. *Berk. Out. p.* 107. *C. Hbk. n.* 80. *Illust. Pl.* 219. *S. Mycol. Scot. n.* 79. *Hussey* ii. *t.* 39.

*** Gills becoming violet, grey, fuliginous.*

128. A. sordidus Fr.—**Pileus** 2.5–7.5 cent. (1–3 in.) broad, *livid-lilac becoming violet*-fuscous or *violet-flesh-colour when young, changing colour* when old, somewhat fleshy, campanulato-convex then plane or depressed, somewhat umbonate, smooth; margin when full grown slightly striate. **Stem** about 5 cent. (2 in.) long, 6 mm. (3 lin.) and more thick, *stuffed, pliant*, commonly thickened

at the base, somewhat incurved, *fibrilloso-striate*, of the same colour as the pileus. **Gills** at first *rounded*, then sinuato-decurrent, somewhat crowded, *at length distant, violaceous then becoming pale* or fuliginous. Tricholoma.

Gregarious, somewhat cæspitose, tough. Inodorous. Pileus when old undulated, often excentric. When old the whole plant is dirty, becoming fuscous, and pale when dry. For a long time overlooked for a form of *A. nudus*, but very different, much smaller, thinner, &c.

On dung, &c. Great Elm, Somerset, 1866, &c. July–Sept.

Spores ellipsoid, 7–9 × 4 mk. *K.;* pale ferruginous, 8 mk. *B. & Br.* Name—*sordidus*, dirty. Squalid in appearance. *Fr. Monogr.* i. *p.* 96. *Hym. Eur. p.* 77. *Icon. t.* 45. *f.* 1. *B. & Br. n.* 1196. *S. Mycol. Scot. n.* 80. *Fl. Dan. t.* 1843. *f.* 2. *C. Illust. Pl.* 100. *Buxb. C.* iv. *t.* 12. *f.* 1.

129. A. pædidus Fr.—**Pileus** 12 mm. (½ in.) broad, *mouse-fuliginous* opaque, scarcely becoming pale, somewhat fleshy, flaccid, campanulate then convex and flattened, umbonate, at length *depressed round the conico-prominent umbo*, moist, *streaked with innate fibrils radiating from the centre*, becoming even however, margin naked; flesh very thin, very tough, becoming white. **Stem** 2.5 cent. (1 in.) long, 4 mm. (2 lin.) thick, *stuffed*, externally *somewhat cartilaginous*, internally fibrous, slightly bulbous at the base, tough, *somewhat striate*, naked, *dingy-grey*. **Gills** somewhat sinuate, with a small decurrent tooth, *crowded*, narrow, *whitish then grey*.

Inodorous. Allied to *A. sordidus* in its small stature, tough substance, and dingy colours, which, however, never incline to violaceous.

In grassy places in woods. Abergavenny, &c. Aug.

Name—*pædidus*, nasty. *Fr. Monogr.* i. *p.* 96. *Hym. Eur. p.* 77. *Icon. t.* 46. *f.* 1. *B. & Br. n.* 1405. *S. Mycol. Scot. n.* 81. *C. Illust. Pl.* 120 upper fig.

130. A. lixivius Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *cinereous-fuscous when moist*, umber, slightly fleshy, *convex then plane*, umbonate (umbo vanishing), never depressed, even, smooth, with a *flattened, membranaceous*, at length *slightly striate margin;* sometimes sinuous. **Stem** 5 cent. (2 in.) long, 6–8 mm. (3–4 lin.) thick, and in becoming compressed so much broader, *stuffed then hollow*, often flexuous, *fragile, cinereous, at first white-floccoso-pruinose*. **Gills** rounded-adnexed, at first sight free, *distant, soft*, 6 mm. (3 lin.) broad, sometimes crisped, attenuated from the stem towards the margin, *grey*.

Gills truncato-free. The habit is that of *A. orbiformis*, but the pileus is darker, umber, not streaked. Stem wholly fibrous, very soft.

Tricholoma. In pine woods. Ascot, 1865. Nov.

Name — *lix*, ashes; *lixivium*, lye, a mixture of ashes and water. Of the colour of lye. *Fr. Monogr.* i. *p.* 97. *Hym. Eur. p.* 77. *Icon. t.* 45. *f.* 2. *B. & Br. n.* 1197, 1840*. *C. Illust. Pl.* 120. *Sow. t.* 66?

131. A. putidus Fr.—**Pileus** 2.5 cent. (1 in.) or less broad, *somewhat olivaceous-grey*, hoary when dry, hygrophanous, *slightly fleshy, hemispherical, umbonate*, soft, even, at the straight margin as well, but occasionally *sprinkled with white silkiness*. **Stem** 4 cent. (1½ in.) long, 6 mm. (3 lin.) thick, *hollow*, equal, somewhat compressed, soft, somewhat fragile, somewhat striate, *grey, covered with a very thin white pruina*, which can be rubbed off. **Gills** apparently *free*, but slightly adnexed in the top of the cone, *crowded*, ventricose, 4–6 mm. (2–3 lin.) broad, distinct, *cinereous*.

A remarkable species. *Odour strong, rancid*, of new meal. Allied to the rancid *Collybiæ* in habit and odour, but the stem is soft, wholly fibrous, by no means cartilaginous.

In fir woods. Jedburgh, &c. Oct.–Nov.

Name — *putidus*, stinking, disgusting. *Fr. Monogr.* i. *p.* 98. *Hym. Eur. p.* 78. *Icon. t.* 46. *f.* 2. *B. & Br. n.* 1198. *S. Mycol. Scot. n.* 82. *C. Illust. Pl.* 172.

Clitocybe. *Subgenus V.* **CLITOCYBE** (κλίτος, a steep or declivity, κύβη, head). Fr. Syst. Myc. i. 78 (Sub-tribe I). Universal veil, when present, conspicuous on the pileus like frost or silky dew, but commonly obsolete. Stem with a spongy stuffing, apt to become hollow, somewhat elastic, externally more compact and fibrous. Margin of the pileus involute. Hymenophore quite continuous, owing to the apex of the stem being dilated; gills *attenuated behind*, acute, *adnate or decurrent*, never sinuate. *Growing on the ground, fleshy but comparatively tough, for the most part plano-depressed or infundibuliform. Fr. Hym. Eur. p.* 78.

VI. Agaricus (Clitocybe) nebularis. One-fifth natural size.

The thinner and hygrophanous species are late, and stand low temperature. Many are remarkable for their fragrance. Very few are edible.

Series A. Pileus fleshy, not changing colour, or (only) turning pale, but not hygrophanous. Flesh firm, not watery, and not scissile into plates. *Those which turn pale in dying differ from Series B. by their silky lustre.* Clitocybe.

I. Disciformes (disc-shaped). *Pileus* more or less equally fleshy, *convex then plane or depressed, regular, obtuse; gills at the first adnate or regularly adnato-decurrent.* Normally solitary.

* *Pileus cinereous or fuscous.*

** *Pileus violaceous, rufescent.*

*** *Pileus becoming yellow.*

**** *Pileus green, becoming pale.*

***** *Colour white, shining whitish.* Cautiously distinguish whitened hygrophanous species and white *Paxilli.*

II. Difformes (irregularly shaped). Pileus with fleshy disc and thin margin, *at the first umbonate, then* expanded and depressed, *irregular. Gills unequally decurrent,* running down in one place for a short and in another for a longer distance, sometimes even rounded on one side of the stem or only reaching it, as in the Tricholomata. Stem externally somewhat cartilaginous but fibrous. *Cæspitose, often connate and very various in form, but sometimes solitary.*

III. Infundibuliformes (funnel-shaped). *Pileus attenuated from the fleshy disc towards the margin, at length wholly funnel shaped or deeply umbilicato-depressed in the centre.* Stem spongy with a fibrous outer coat. Gills descending, *at the first deeply and equally decurrent.* Pileus often losing colour or becoming pale, but not hygrophanous.

* *Pileus coloured or becoming pale, the surface* (at least under a lens) *innato-flocculose or silky, bibulous,* not moist.

** *Pileus coloured or pallid, smooth, moist* (in rainy weather). Variable in colour and stature (the pileus being undulato-lobed is a point of no consequence).

*** *Pileus shining whitish, sprinkled over with small superficial flocci* or *becoming smooth.*

Series B. Pileus fleshy-membranaceous, truly hygrophanous. Flesh thin, soft, watery, hygrophanous. (*White species, which only become more shining white when dry, have been inserted among the foregoing.*)

IV. Cyathiformes (cup-shaped). *Pileus fleshy-membranaceous* (composed of two membranaceous plates), *without a compact disc, hygrophanous as well as the flesh, depressed then cup-shaped; gills* at first adnate, then *decurrent,* descending, straight. *Colour dingy when moist.* Compare *Omphalia, Hydrogrammi.*

V. Orbiformes (round-shaped). *Pileus somewhat fleshy, moist within and without, hygrophanous, convex then becoming plane or depressed, polished,* not squamulose or mealy; *gills plane,* horizontal, thin, crowded, *adnate* or only decurrent with a small tooth. *Colour dingy or becoming watery-pale. Most of the species are of a low rank, and are recognisable with difficulty and only in rainy weather, on account of the changeableness of their colour, and the indistinctness of their characteristic marks.*

* *Gills becoming cinereous.* Pileus at the first dark.

** *Gills whitish.* Pileus becoming pale.

VI. Versiformes (variable in shape). *Pileus thin, convex then irregularly shaped,* tough, *more or less squamulose or furfuraceous; gills adnate* (not decurrent or only with a small tooth), *broad, rather thick, for the most part distant and powdered with white meal.* Colour hygrophanous. Stem tough, sometimes with a veil. The species are all very distinguished, as they differ exceedingly in stature and form and colour.

* *Pileus dirty-coloured or made dusky with darker squamules.*

** *Pileus bright, of one colour.*

Clitocybe.

SERIES A.

I.—DISCIFORMES.

** Pileus cinereous or fuscous.*

132. A. nebularis Batsch.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, fuliginous or fuscous, at length grey, fleshy, *somewhat compact*, convex then becoming plane, very obtuse, at length depressed at the disc, dry; *at the first* (in dry weather) *covered over with a grey*, pruinose *cloudiness*, but when full grown and in wet weather quite naked, smooth (more rarely innately streaked or shining when scorched by the sun); flesh compact, white. **Stem** 7.5 cent. (3 in.) long, about 2.5 cent. (1 in.) thick, stout, remarkably *fleshy*, at first *solid*, but soft within and at length occasionally hollow, spongy-elastic, attenuated upwards (obclavate), *fibrillose-striate*, white. **Gills** *shortly* and equally *decurrent*, *arcuate*, very *crowded*, thin, pallid white, sometimes becoming yellow.

Robust, laxly gregarious, slightly odorous. The pileus may be even white like the flesh. The stem varies, curt, equal, also villous and squamulose. It may be easily interchanged with a form of *A. humilis* with spuriously decurrent gills which is thinner and more fragile.

In woods, &c. Common. Aug.–Nov.

Spores 3×4 mk. *W.G.S.*; 3–5×3 mk. *B.* Margin of pileus at first involute, sometimes quite regular, sometimes waved. It smells of curd cheese. Edible; very good; with a somewhat pungent taste. Name—*nebula*, a cloud. From the *clouded* pileus. *Batsch f.* 193 (var. minor). *Fr. Monogr.* i. *p.* 100. *Hym. Eur. p.* 79. *Sverig. ätl. Sv. t.* 45. *Berk. Out. p.* 107. *C. Hbk. n.* 81. *Illust. Pl.* 79. *S. Mycol. Scot. n.* 83. *Fl. Dan. t.* 1734. *Hussey* ii. *t.* 9. *Badh.* i. *t.* 9; ii. *t.* 4. *f.* 2. A. pileolaris *Bull. t.* 400. [*Paul. Ch. t.* 79. *f.* 1–5. A. murinaceus *Gonn. & Rab. t.* 10. *f.* 2? not Bull. or Fr.] B. gills yellow. A. turgidus *Grev. t.* 9. A. canaliculatus *Schum.—Fl. Dan. t.* 1844. *f.* 2, a monstrous form.

133. A. clavipes Pers.—**Pileus** 4–5 cent. (1½–2 in.) and more broad, sometimes of one colour, fuscous, fuliginous, cinereous-livid, sometimes whitish round the margin, very rarely wholly white, fleshy, slightly convex, soon plane, at length *almost obconical*, very obtuse, even, smooth, dry; flesh lax, white, thin towards the margin. **Stem** 5 cent. (2 in.) long, *conical*, 12 mm. (½ in.) and more thick at the base, solid, internally spongy, *somewhat fibrillose*, fuliginous-livid. **Gills** *deeply decurrent*, *descending* in a straight line, *somewhat distant*, flaccid, quite entire, broad, wholly and persistently white, but varying yellow.

Of the same colour as *A. nebularis*, but most distinct in its nature. Odour mild, pleasant. Substance wholly *soft*, elastic.

In woods, chiefly spruce fir. Common. Aug.–Nov. Clitocybe.

Spores subellipsoid, uniguttate, 5–7×3–4 mk. *K.*; 6×8 mk. *W.G.S.* Name—*clava*, a club; *pes*, a foot. Stem club-shaped. *Pers. Syn. p.* 353. *Fr. Monogr.* i. *p.* 100. *Hym. Eur. p.* 79. *Icon. t.* 47. *f.* 1. *S. Mycol. Scot. n.* 84. *C. Illust. Pl.* 80. *Saund. & Sm. t.* 31. A. mollis *Bolt. t.* 40 (badly coloured). B. with yellow gills.

134. A. gangrænosus Fr.—**Pileus** whitish, occasionally green, becoming livid, &c., fleshy, convexo-plane, obtuse, at the first white-pulverulent, then naked, *variegated or streaked.* **Stem** solid, spongy, *somewhat bulbous*, soft, striate, curved, sometimes excentric. **Gills** somewhat decurrent, arcuate, crowded, dingy-white.

Large; stinking; flesh becoming black or variegated with black.

In woods. Rare.

Name—*gangræna*, ulcer, gangrene. From its appearance. *Fr. Hym. Eur. p.* 80. *Smith Jour. Bot.* (1873), 355. *Batt. t.* 20. *f. M.*

135. A. inornatus Sow.—**Pileus** 7.5 cent. (3 in.) broad, somewhat livid, fleshy, plane or depressed, obtuse, even, smooth, *with a separable pellicle.* **Stem** 5 cent. (2 in.) long, 12 mm. (½ in.) and more thick, solid, somewhat equal, smooth, firm, grey. **Gills** adnate, plane, at length decurrent, crowded, grey.

Flesh grey or variegated grey. Odour almost that of *A. campestris.*

Among grass in woods. Rare.

The separable cuticle indicates *A. grammopodius*, but the gills are not in the least arcuato-adnate. *M.J.B.* Spores pruniform 10 mk. *Q.* Name—*inornatus*, unadorned. *Sow. t.* 342. *Fr. Hym. Eur. p.* 80. *Illust. Pl.* 246. *a. Berk. Out. p.* 108. *C. Hbk. n.* 82. *S. Mycol. Scot. n.* 85.

136. A. hirneolus Fr.—**Pileus** scarcely 12 mm. (½ in.) broad, *hoary*, slightly fleshy, *plano-convex*, at length *depressed in the centre* and umbilicate, very even, *slightly shining*, when fresh as if slightly viscid, the cuticle as if with a glued silkiness, the involute margin very thin; flesh white. **Stem** as much as 5 cent. (2 in.) long, scarcely 2 mm. (1 lin.) thick, *slender*, not cartilaginous however, but *elastic*, internally flocculose-stuffed, equal, flexuous, *grey*, smooth, *white-pruinose at the apex.* **Gills** somewhat decurrent, crowded, thin, rather broad, whitish-grey.

Gregarious, arid, tough, forming with *A.* (*Trich.*) *cælatus* and *A.* (*Clit.*) *parilis* a peculiar group, distinct in having the spores *cinereous-whitish.* Overlooked or referred to *Omphalia* on account of its minuteness.

Clitocybe.

Among moss. Coed Coch, 1877. Oct.

Spores 5×3 mk. *W.P.* Name—diminutive, *hirnea*, a jug. Shaped like a small jug. *Fr. Monogr.* i. *p.* 103. *Hym. Eur. p.* 82. *Icon. t.* 48. *f.* 3. *B. & Br. n.* 1841. *C. Illust. Pl.* 246. *Quel. Jur. t.* 3. *f.* 2.

** *Pileus violaceous, rufescent.*

137. A. cyanophæus Fr.—**Pileus** 7.5–10 cent. (3–4 in.) broad, becoming azure-blue-fuscous, compact, convex then plane, obtuse, smooth. **Stem** 7.5 cent. (3 in.) long, 2.5 cent. (1 in.) thick at the base, attenuated upwards, robust, solid, smooth, *becoming azure-blue* when young, *abruptly white at the apex.* **Gills** deeply decurrent, crowded, violaceous, then becoming pale.

An elegant species, clearly distinct from *A. nudus.*

Var. Pengellei, minor, B. & Br. The abrupt white apex of the stem is very remarkable. Cornwall. Name—after T. W. Pengelly. *B. & Br.*

Name—κύανος, blue; φαίος, dusky. *Fr. Hym. Eur. p.* 82. Var. Pengellei *B. & Br. n.* 1993. *C. Illust. Pl.* 264. A. nudus *Harz. t.* 30. *Gonn. & Rab. t.* 17. *f.* 1.

138. A. amarus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, rufescent or becoming fuscous, then becoming pale, whitish, fleshy, pliant, convex then flattened, obtuse, dry, *at first fibrilloso-silky*, then becoming smooth, rivulose, margin at first involute, thin; flesh compact but not thick, white, **Stem** 2.5–5 cent. (1–2 in.) long, 12 mm. (½ in.) thick, *stuffed, tough*, firm, equal, fibrillose when young, becoming smooth when more full-grown, but more or less white-tomentose at the base, *white.* **Gills** *adnato-decurrent*, crowded, thin, 4 mm. (2 lin.) broad, quite entire, becoming pale white.

Odour peculiar, *taste very bitter.* A well-defined species, but deceitful on account of the changeable colour of the pileus. It has been noticed rufous-fuscous and whitish-fuscous, paler round the margin. The pileus is often unequal and repand, unpolished under a lens.

In woody places. Holm Lacy, 1878, &c.

Spores 4 mk. *W.P.* Name—*amarus*, bitter. *Fr. Monogr.* i. *p.* 107. *Hym. Eur. p.* 83. *B. & Br. n.* 1842. *C. Illust. Pl.* 134.

139. A. socialis Fr.—**Pileus** about 2.5 cent. (1 in.) broad, pale-yellowish with a reddish tinge, fleshy, convex then expanded, acutely *umbonate* especially when young, even, smooth, dry; flesh moderately thin, white. **Stem** 2.5 cent. (1 in.) long, 4 mm. (2 lin.) or a little more thick, solid, fibrous, commonly ascending, smooth, reddish, *the rooting base hairy.* **Gills** plano-decurrent, scarcely crowded, becoming yellow.

A very pretty species, densely gregarious, inodorous. The stem is sheathed-hairy at the base like *Marasmius peronatus*. Its greatest affinity is with *A. vernicosus*, of which it is perhaps a variety. Clitocybe.

Among fir-leaves. Downton, Hereford, 1876. Oct.

Name—*socius*, a companion. From its gregarious habit. *Fr. Hym. Eur. p.* 83. *Icon. t.* 49. *f.* 2, *descr. B. & Br. n.* 1637. *C. Illust. Pl.* 134. B.

*** *Pileus becoming yellow.*

140. A. amarella Pers. — **Pileus** pale-yellowish or pallid fawn-colour, fleshy, plane, firm, somewhat umbonate, smooth. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, solid, compact, tough, equal, white-villous at the base. **Gills** somewhat decurrent, crowded, *pallid, somewhat shining*, here and there dichotomous.

Odour strong; taste very bitter. The gills are paler than the pileus, somewhat grey.

In woods. Coed Coch, 1876. Oct.

Smell that of prussic acid. *B. & Br.* Name—diminutive, *amarus*, bitter. *Bitterish. Pers. Myc. Eur. p.* 99. *Fr. Hym. Eur. p.* 84. *B. & Br. n.* 1683.

141. A. vernicosus Fr. — **Pileus** about 5 cent. (2 in.) broad, shining pale-yellowish, *fleshy*, convex then flattened or plano-depressed, obtuse, even, smooth, involute at the margin; flesh firm, whitish. **Stem** 2.5–4 cent. (1–1½ in.) long, about 6 mm. (3 lin.) thick, *stuffed*, firm, *tough*, equal, even, smooth, *yellow*. **Gills** adnato-decurrent, equally attenuated behind, *somewhat distant, light yellow*.

Odour none. It can only be compared with *A.* (*Trich.*) *cerinus*, but it is very easily distinguished by its shining pileus, smooth stem, and especially gills, which are truly decurrent (not sinuate), and not crowded. B. pileus somewhat infundibuliform, and hence the gills deeply decurrent. A. flavidus *Sow. t.* 366.

In fir wood. Rare.

Name—*vernis*, varnish. From its shining appearance. *Fr. Monogr.* i. *p.* 105. *Hym. Eur. p.* 84. *Icon. t.* 50. *f.* 1. *Berk. Out. p.* 108. *C. Hbk. n.* 83. *Illust. Pl.* 765 after Sow.

142. A. venustissimus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, splendid *orange-reddish*, but becoming pale, slightly fleshy, convex then expanded, obtuse or somewhat umbilicate, becoming slightly silky-even, sometimes even at the margin, sometimes (always when larger) striate and remarkably crenate or toothed in a crisped manner; flesh of the same colour. **Stem** 4 cent. (1½ in.) long,

Clitocybe. 4–6 mm. (2–3 lin.) thick, stuffed then hollow, equal, smooth, *reddish*, commonly white-villous at the base. **Gills** truly decurrent, slightly distant, 3 mm. (1½ lin.) broad, somewhat arcuate, glittering orange and reddish.

Odour none. The colours of the plant in its full vigour are so splendid and intense, glittering between red and orange, that the art of painting cannot produce a proper combination of colours to represent it. They become pale when the plant is old and dry, and pass into light yellowish.

Among larch-leaves. Penicuik.

Name—*venustus*, beautiful. *Most beautiful. Fr. Monogr.* ii. *p.* 289. *Hym. Eur. p.* 84. *Icon. t.* 50. *f.* 2. *C. Illust. Pl.* 265.

143. A. subalutaceus Batsch.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *becoming pale-tan*, at length becoming pale, whitish, fleshy, *soft*, tough, convex then flattened, obsoletely umbonate or depressed, *smooth*. **Stem** 2.5–5 cent. (1–2 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed*, internally spongy, *elastic*, equal or slightly thickened and here and there curved-ascending at the base, naked, *becoming pale straw-colour*. **Gills** adnate, then somewhat decurrent, distant, broad, simple, pallid.

Odour, like that of *A. odorus*, of anise, but weaker, sometimes obsolete. Its stature is that of *A. venustissimus*, but firmer and with a longer stem.

Under holly. Oxton Exeter, 1875. Nov.

Smell like that of *A. putidus* and *A. rancidus*, peculiar. *B. & Br.* Name —*sub*, and *aluta*, soft leather dressed with alum. Somewhat of the colour of tanned leather. *Batsch f.* 194. *Fr. Monogr.* i. *p.* 107. *Hym. Eur. p.* 85. *B. & Br. n.* 1509.

**** *Pileus green, becoming pale.*

144. A. odorus Bull.—**Pileus** 7.5 cent. (3 in.) broad, greenish, fleshy, convex then flattened, obtuse or obsoletely umbonate, regular or repand, even, smooth, moist in rainy weather, the margin, which is at first inflexed, pubescent; flesh not thick, dingy white. **Stem** 5 cent. (2 in.) and more long, 6–8 mm. (3–4 lin.) thick, stuffed, rarely equal, sometimes shorter, firmer, and somewhat bulbous, sometimes longer and more slender (not thickened at the base), flexuous, at first flocculoso-fibrillose, soon naked, commonly white villous at the base. **Gills** adnato-decurrent, *slightly distant*, broad (broader than the flesh of the pileus), quite entire, commonly paler than the pileus.

Tough; changeable in stature, *varying in colour* between *pallid green and verdigris-grey*, commonly of one colour, sometimes, however, the gills are white; otherwise very easily distinguished by its *pleasant odour of anise*, chiefly when dried; sometimes somewhat cæspitose.

In woods. Common. Aug.–Nov. Clitocybe.

Edible. Spores ellipsoid - sphæroid, 6×5 mk. *K.*; 8×4 mk. *B.*; 6 mk. *W.G.S.* Name—*odorus*, fragrant. *Bull. t.* 556. *f.* 3. *Fr. Monogr.* i. *p.* 106. *Hym. Eur. p.* 85. *Sverig. ätl. Sv. t.* 85. *Berk. Out. p.* 108. *C. Hbk. n.* 84. *Illust. Pl.* 101. *S. Mycol. Scot. n.* 86. *Sow. t.* 42. *Grev. t.* 28. *Fl. Dan. t.* 1611. *Krombh. t.* 67. *f.* 20–22.

145. A. Trogii Fr.—**Pileus** *becoming cinereous white*, fleshy, *compact*, convex then expanded, obtuse, smooth, opaque. **Stem** solid, firm, curt, thickened and villous at the base, white. **Gills** somewhat decurrent, crowded, white.

Very fragrant. Certainly distinct from *A. odorus* in its compact flesh and robust stature.

In woods. Coed Coch, &c. Sept.

About the same size as *A. odorus*. Name—after Trog. *Fr. Hym. Eur. p.* 85. *Trog Helv. p.* 14. *B. & Br. n.* 1846. *S. Mycol. Scot. Supp. Scot. Nat.* 1883, *p.* 29. *C. Illust. Pl.* 102.

146. A. rivulosus Pers.—**Pileus** at first inclining to flesh-colour, becoming white when dry and older, sometimes becoming fuscous, fleshy, somewhat thin, *convexo-plane then depressed*, never umbonate; when young moderately regular, 2.5–5 cent. (1–2 in.) broad, at length 7.5–10 cent. (3–4 in.) broad, repand, undulato-lobed, *sprinkled with very delicate* and closely adpressed and evened, *at length truly rimoso-rivulose, whitish villous down;* margin at first involute, villous; flesh compact, white. **Stem** 2.5–5 cent. (1–2 in.) long, about 6–8 mm. (3–4 lin.) thick, *stuffed* with a spongy pith, at length also hollow, tough, *elastic*, equal, somewhat fibrillose, becoming white. **Gills** obliquely acute behind, not equally attenuated, adnate then somewhat decurrent, broad, somewhat crowded, flesh-colour then becoming white.

Odour pleasant, *taste mild.* Sometimes solitary, sometimes cæspitose. Changeable in colour and size. It can be properly recognised only in rainy weather. When cæspitose it is larger, with undulato-lobed pileus, &c., so that it might be easily mistaken for var. *difformis* of *A. cerussatus.*

On lawn, among moss, &c. Coed Coch, &c. Oct.

Var. neptuneus Batsch, on dry mountain-pastures near the sea. Llandulas. *B. & Br.* Name — *rivus*, a stream. From the rivulet-like streaks on the pileus. *Pers. Syn. p.* 369. *Fr. Monogr.* i. *p.* 108. *Hym. Eur. p.* 86. *B. & Br. n.* 1734. *S. Mycol. Scot. n.* 87. *C. Illust. Pl.* 200, upper fig. Var. neptuneus (*Batsch* F. 118), *B. & Br. n.* 1994. *C. Illust. Pl.* 200, lower fig.

***** *Colour white, shining whitish.*

147. A. cerussatus Fr. Wholly *white.*—**Pileus** 5–7.5 cent. (2–3 in.) broad, *fleshy*, convex then expanded, obtuse or gibbous,

Clitocybe. even, smooth, but *at the first floccoso-fibrillose*, the involute margin villous; flesh soft, white. **Stem** 5–7.5 cent. (2–3 in.) long, *solid, fleshy-fibrous*, elastic, thickened and more or less white-tomentose at the base, *naked upwards*, even. **Gills** adnate, then slightly *decurrent, very crowded*, thin, quite entire, narrow, never becoming yellow.

Inodorous, taste mild. Often growing in troops. It differs from *A.* (*Trich.*) *albus* in the gills never becoming yellow. Compare *Bull. t.* 118, different from *Hygrophorus eburneus* in the crowded, very thin gills, and smooth stem.

In mixed or fir woods. Frequent. Apríl–Oct.

Not umbonate as *A. opacus*. *M. J. B.* Spores 3 mk. *W. G. S.* Probably edible. Name—*cerussa*, white-lead. *Fr. Monogr.* i. *p.* 108. *Hym. Eur. p.* 86. *Berk. Out. p.* 108. *B. & Br. n.* 670. *C. Hbk. n.* 85. *Illust. Pl.* 121. *S. Mycol. Scot. n.* 88. *Fl. Dan. t.* 1796.

* **A. difformis** Schum. Cæspitose, often gigantic; pileus undulato-lobed; stem curt, sulcate or longitudinally wrinkled; gills at length pallid.

It varies with the pileus at first sprinkled with flocci, 5–17.5 cent. (2–7 in.) broad in the same cluster, the stem of the larger specimens 2.5 cent. (1 in.) thick and long. On rich ground. Spores 4×3 mk. *B. Schum. p.* 335. *Fr. Hym. Eur. p.* 86. *Monogr.* i. *p.* 109. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 21. *Sterb. t.* 16.

148. A. phyllophilus Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, *tan then becoming pale white* (of the same colour when moist and dry), fleshy, *convex then plano-depressed*, obtuse, but never truly infundibuliform, often excentric and repand, without striæ, sprinkled with *very thin silky* superficial *villous down*, and silky towards the margin. **Stem** about 5–7.5 cent. (2–3 in.) long, *elastic*, externally fibrous, internally *stuffed* with a spongy pith and hollow when this disappears, always tough, incurved (but not bulbous) and villous at the base, white. **Gills** *adnate*, slightly decurrent, 4–6 mm. (2–3 lin.) broad, *scarcely crowded*, at first *white, then becoming pale*, almost tan-white.

Tough, by no means hygrophanous, odour scarcely remarkable. The stature like that of *A. pithyophilus*, &c., varies exceedingly, sometimes small and solitary, sometimes large and cæspitose. Stem sometimes straight, sometimes decumbent, sometimes smooth upwards.

In woods among leaves, chiefly beech. Common. Sept.–Oct.

Distinguished from *A. cerussatus* by its umbilicate pileus, and the gills changing at length to yellow. *M. J. B.* Spores 6×3 mk. *W. G. S.*; 4–8×3–5. mk. *B.* Name—φύλλον, a leaf; φίλος, loving. *Fr. Monogr.* i. *p.* 109. *Hym. Eur. p.* 87. *Berk. Out. p.* 109. *C. Hbk. n.* 86. *Illust. Pl.* 81. *S. Mycol. Scot. n.* 89. *Fl. Dan. t.* 1847.

149. A. pithyophilus Secr.—**Pileus** 5–7.5 cent. (2 -3 in.) broad, dead-white when moist, shining whitish when dry, fleshy but *thin*, rather plane, *umbilicate*, at length irregularly shaped, repand and undulato-lobed, even, *smooth*, *flaccid*, the margin slightly striate when old. **Stem** *somewhat hollow*, rounded then compressed, equal, even, smooth, obsoletely or scarcely pruinose at the apex, white tomentose at the (not bulbous) base. **Gills** adnate, somewhat decurrent, *very crowded*, plane, 4–6 mm. (2–3 lin.) broad, distinct, quite entire, white. Clitocybe.

Odour not remarkable, but pleasant. Gregarious, somewhat cæspitose; *white* indeed, but when moist watery and *somewhat hygrophanous*, in which it evidently differs from *A. phyllophilus*. *A. tuba*, which appears in the same places, is very like it.

In fir woods. Frequent. Sept.–Oct.

Spores 6–7 × 4 mk. *B.* Name — πίτυς, pine; φίλος, loving. *Secr. n.* 1011. *Fr. Monogr.* i. *p.* 110. *Hym. Eur. p.* 87. *B. & Br. n.* 1107. *C. Hbk. n.* 87. *Illust. Pl.* 103. *a*. *S. Mycol. Scot. n.* 90.

150. A. tornatus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, wholly white, fleshy at the disc, otherwise thin, *convex then becoming plane* at length *depressed round the gibbous disc*, absolutely dry, properly smooth, but somewhat silky with a glued film, and at length *delicately rimoso-rivulose;* flesh white. **Stem** 4 cent. (1½ in.) long, 3–4 mm. (1½–2 lin.) thick, *stuffed*, tough and *fibrous*, equal or attenuated downwards, round, smooth but *unpolished*, white, the base pubescent. **Gills** horizontal, wholly adnate with only a small decurrent tooth, *plane*, very crowded, 2 mm. (1 lin.) a little more broad.

Inodorous. It can be easily recognised among neighbouring species by its small *stature*, and by its being remarkably *regular* with a *circinate pileus*. The pileus is here and there darker on the disc. The glued film on the pileus is like that of *A. rivulosus*, to which it is allied, but from which it differs in its thinness, its regular form, its pure white unchangeable colour, and its more crowded gills. B. smaller, pileus smooth, gills somewhat crowded.

Among grass beside decayed elm-stumps. North Kilworth, 1870, &c. Oct.

Name — *torno*, to turn in a lathe. Regular as if turned. *Fr. Monogr.* i. *p.* 110. *Hym. Eur. p.* 87. *Icon. t.* 41. *f.* 1. *B. & Br. n.* 1200. *C. Illust. Pl.* 103.

151. A. candicans Pers. *Wholly white.*—**Pileus** 2.5 cent. (1 in.) broad, dead white when moist, shining whitish when dry, slightly fleshy, convex then plane and depressed, *umbilicate*, sometimes regular, sometimes a little excentric, even, *shining* with a superficial-adpressed *silky film*. **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, *cartilaginous-waxy*, polished, *somewhat*

Clitocybe. *fistulose*, equal, even, *smooth*, shining, incurved rooting and villous at the base. **Gills** at first adnate, then decurrent, crowded, very thin, narrow, *straight*, almost linear.

The silky film on the pileus is like that of neighbouring species. Slightly tough, approaching *Omphaliæ* in the nature of the stem. In fir woods there is a remarkable form: pileus plane, not umbilicate, naked (without silky villous down); stem thinner, flexuous, smooth at the base; gills scarcely decurrent.

In woods among leaves. Common. July–Nov.

Spores 4–6×4 mk. *B.* Name—*candico*, to be shining white. *Pers. Syn. p.* 456. *Fr. Monogr.* i. *p.* 111. *Hym. Eur. p.* 88. *Icon. t.* 51. *f.* 3. *Berk. Out. p.* 109. *C. Hbk. n.* 88. *Illust. Pl.* 82. *S. Mycol. Scot. n.* 91. *Saund. & Sm. t.* 39. *f.* 1. *Bull. t.* 575. *f. E.*

152. A. dealbatus Sow.—**Pileus** about 2.5 cent. (1 in.) or a little more broad, white, *slightly fleshy*, *tough*, convex then plane and at length revolute and undulated, always *dry* (not watery in rainy weather), even, smooth, *somewhat shining*, but as if innately-pruinose under a lens; flesh thin, arid, white. **Stem** 2.5 cent. (1 in.) long, 4 mm. (2 lin.) thick, *stuffed*, *wholly fibrous*, at length also fistulose, *equal*, but often ascending, whitish, mealy at the apex. **Gills** *adnate*, scarcely decurrent, thin, *crowded*, white.

Pileus sometimes orbicular, sometimes very repand. *Odour weak*, *pleasant*, but not very remarkable. Most distinct from *A. candicans* in the nature of the stem.

In woods and pastures. Common. July–Oct.

Edible. Its top is *exceedingly like ivory*. Its charming flavour is exceeded by very few other fungi. Spores 4×2 mk. *W.G.S.* Name—*dealbo*, to whitewash. *Sow. t.* 123. *Fr. Monogr.* i. *p.* 112. *Hym. Eur. p.* 88. *Berk. Out. p.* 109. *C. Hbk. n.* 89. *Illust. Pl.* 104. *S. Mycol. Scot. n.* 92. *Hogg & Johnst. t.* 10. Var. minor, *C. Illust. Pl.* 173.

153. A. gallinaceus Scop. Dingy white.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *slightly fleshy*, convex then plane, *not depressed*, obtuse, unequal, dry, *opaque*, *sprinkled with pruina;* flesh white, compact, though thin. **Stem** about 5 cent. (2 in.) long, *solid*, by no means cartilaginous, equal, ascending or flexuous, excentric, *at the first flocculose-pruinose*, always opaque and white. **Gills** *adnato-decurrent*, thin, crowded, plane.

Growing in troops. Its stature is almost that of *A. dealbatus*, but smaller, opaque, dingy white with a *somewhat acrid taste*. The pileus is not revolute, rather plane and always very obtuse.

In woods and pastures. Common. Autumn.

Distinguished from *A. dealbatus* by its opaque pileus and strong fungoid smell. *M.J.B.* Name—*gallina*, a hen. Meaning not apparent. *Scop. Carn. p.* 433. *Fr. Monogr.* i. *p.* 112. *Hym. Eur. p.* 88. *Berk. Out. p.* 109. *C. Hbk. n.* 90. *Illust. Pl.* 174. *S. Mycol. Scot. n.* 93. *Hussey* i. *t.* 39.

II.—Difformes.

154. A. decastes Fr.—**Pileus** *of one colour*, mouse or livid when moist, almost tan when dry, fleshy at the disc, otherwise *very thin, fragile*, when flattened as broad as the palm of the hand, gibbous or obtuse, even, *smooth* (not streaked); margin wholly membranaceous, at the first shortly incurved, then expanded, very much undulated and lobed; flesh composed of two easily scissile membranes, fragile, white. **Stems** solid, but soft, externally and internally wholly fibrous, splitting up (not somewhat cartilaginous), united at the base, commonly attenuated or curved-ascending, often compressed, *smooth*, commonly naked, more rarely pruinose at the apex, each 7.5–10 cent. (3–4 in.) long, 2.5–4 cent. (1–1½ in.) thick, *wholly white*. **Gills** *adnato-decurrent*, or rounded, 6–8 mm. (3–4 lin.), broad, attenuated towards the margin, sometimes somewhat crowded, sometimes *slightly distant*, often undulated, and as if crenulated at the edge.

The disc is more compact only from the apex of the stem. Spores plentiful, white, making the clusters mealy as in *A. melleus*. Odour not remarkable. Very variable in size, very much infested by larvæ, hence it becomes fragile. The gills are rounded on one side as in the *Tricholomata*, not arcuate. In oak and beech woods forming smaller clusters, about 10 stems joined together; on naked soil however, in gardens and walks through plantations, forming huge clusters a foot in diameter.

On sawdust. Coed Coch.

Agreeing closely with the figure of Fries in the 'Icones'; but we are doubtful whether what we find is not an advanced stage of *A. cryptarum*. *B. & Br.* Name—δεκάς, a decade, company of ten. From the stems being united in bundles of about ten. *Fr. Monogr.* i. *p.* 116. *Hym. Eur. p.* 90. *Icon. t.* 52. *B. & Br. n.* 1845.

155. A. aggregatus Schæff.—**Pileus** 7.5–10 cent. (3–4 in.) broad, grey-livid then rufescent, fleshy, convex then expanded, at the first umbonate, then depressed, often excentric, *somewhat silky-streaked*. **Stem** commonly 7.5 cent. (3 in.) long, stuffed, fibrous-fleshy, thickened upwards, white rufescent, curved, compressed. **Gills** *unequally decurrent, crowded*, thin, 6–8 mm. (3–4 lin.) broad, flesh colour then becoming light yellow.

Very irregular. Stem very variable, sometimes longer, sometimes shorter; many united at the base, forming often very large and lax clusters. Spores dingy white, sprinkled upon pilei which are near to each other, as in *A. decastes*. Strong smelling. According to Secretan the pileus is marked with darker spots. Easily distinguished from *A. decastes*, &c. by the *flaccid, often excentric pileus*, by the *somewhat fibrillose stem*, and by the *gills being flesh colour to light yellow*. If it did not always grow on the ground, it might be easily referred to *Pleuroti*; its habit is almost that of *A. ostreatus*. It occurs smaller with dingy gills.

Clitocybe. On sawdust. Coed Coch, 1878. July–Oct.

Name—*ad*, and *grego*, to gather into a flock. Clustered. *Schæff. t.* 305, 306. *Fr. Monogr.* i. *p.* 117. *Hym. Eur. p.* 90. *B. & Br. n.* 1735. *C. Illust. Pl.* 182.

156. A. elixus Sow.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *fuliginous when moist*, then becoming pale with a somewhat silky habit, fleshy at the disc, otherwise thin, convex then flattened or depressed, *umbonate*, undulato-repand, becoming even but *delicately streaked;* flesh dingy white. **Stem** 5 cent. (2 in.) long, about 12 mm. (½ in.) thick, *solid*, firm, somewhat equal, *even, fuliginous-whitish, velvety at the apex.* **Gills** everywhere truly but *unequally decurrent, distant, connected by veins*, 4 mm. (2 lin.) broad, quaternate, pure white.

Gills *almost obconical-decurrent.* The only one of this group which is not cæspitose. The habit is that of *Hygrophorus caprinus*, but it is certainly distinct in the gills being thin, and in no wise at length waxy-soft.

In woods. Frequent. Oct.

Very bibulous, flesh soft. *M.J.B.* Name — *elixus*, soaked. From its sodden appearance. *Sow. t.* 172. *Fr. Monogr.* i. *p.* 114. *Hym. Eur. p.* 91. *Berk. Out. p.* 109. *C. Hbk. n.* 91. *Illust. Pl.* 280. *S. Mycol. Scot. n.* 94.

157. A. fumosus, Pers.—**Pileus** 2.5–7.5 cent. (1–3 in.) broad, *becoming fuliginous-fuscous, soon livid*, or grey when dry, truly fleshy at the disc, thin towards the margin, *convex then plane*, obtuse, or gibbous only when young, sometimes circinate and regular, sometimes flexuous-undulated, even, smooth, somewhat hygrophanous; flesh hyaline when moist, whitish when dry. **Stem** 5–7.5 cent. (2–3 in.) long, 4–12 mm. (2–6 lin.) thick, *solid* or stuffed, fibrous–fleshy, somewhat equal, but often twisted or curved, smooth, dingy white, more or less *white-mealy at the apex.* **Gills** in regular specimens *adnate*, in irregular ones in one place decurrent and in another rounded, *crowded, distinct*, at the very first *grey-white.*

Odour none. Gregarious, somewhat cæspitose, tough, *somewhat cartilaginous.* The colour of the pileus varies more or less dark; pellicle adnate. Easily distinguished from *A. elixus*, &c., by its *obtuse pileus*, which is often *regular*, but *never streaked.*

In woods. Uncommon. Oct.

Spores 6 mk. *W.G.S.* The densely cæspitose form was formerly regarded as a variety, *polius;* it is figured by Saunders & Smith *t.* 13. Fries has separated *A. polius* as a distinct species; it is figured in *Icones t.* 48. *f.* 1. Berkeley now regards what was formerly called var. *polius* as merely a cæspitose state of *A. fumosus. A. polius* Fr. *Icon. t.* 48. *f.* 1. is an entirely different plant. Name—*fumus*, smoke. From its smoky colour. *Pers. Syn.* 348.

Fr. Monogr. i. *p.* 115 (named *A. nebularis* by mistake). *Hym. Eur. p.* 91. *Icon. t.* 54. *f.* 2. *Berk. Out. p.* 107. *C. Hbk. n.* 92. *Illust. Pl.* 175. *S. Mycol. Scot. n.* 95. Clitocybe.

158. A. tumulosus Kalchbr.—**Pileus** *umber*, becoming pale, fleshy, conical then expanded, umbonate, even, smooth. **Stem** solid, *floccoso-pruinose*, pallid. **Gills** slightly emarginate and decurrent, crowded, white then becoming cinereous.

Cæspitose. The type of the Difformes.

In woods. Hereford, 1871. Sept.

Spores 6–7 × 4 mk. *B.* Name — *tumulus*, a mound. From the heaps formed by its mode of growth. *Kalchbr. Fung. Hung. p.* 13. *t.* 5. *Fr. Hym. Eur. p.* 91. *C. Illust. Pl.* 105.

159. A. cryptarum Letell.—**Pilei** brown, spotted, somewhat conical, depresso-flocculent. **Stems** narrowly fistulose, more or less compressed, attenuated upwards, streaked, somewhat striate, white. **Gills** somewhat decurrent, arcuate, narrow, white.

Densely cæspitose.

On sawdust. Coed Coch. Oct.

Habit that of *A. tumulosus*. Pilei varying much in size, according to the denseness of the clusters. Inodorous, insipid; stem mottled within. *B. & Br.* Name — *crypta*, a vault, cellar. Probably first found in a cellar. *Letell.—B. & Br. n.* 1844.

160. A. opacus With. White.—**Pileus** fleshy, convex, expanded, umbonate, repand, even, *covered over with floccose lustre*. **Stem** *stuffed*, somewhat fibrillose, unequal, flexuous. **Gills** adnato-decurrent, very crowded, white.

Sometimes connato-cæspitose, sometimes single. Very much allied to *A. cerussatus*.

In woods. Autumn.

Remarkable for the silvery glair with which it is clothed, which sometimes admits of being rubbed off. *M. J. B.* Name — *opacus*, opaque. *With.—Fr. Hym. Eur. p.* 93. *Berk. Out. p.* 110. *C. Hbk. n.* 93. *Illust. Pl.* 176. *S. Mycol. Scot. n.* 96. *Sow. t.* 142.

III. Infundibuliformes.

* *Pileus coloured or becoming pale*, &c.

161. A. maximus Fl. Wett.—**Pileus** as much as 30 cent. (1 ft.) broad, becoming pale-tan or whitish, *fleshy*, compact at the disc, otherwise thin, *somewhat flaccid* (not fissile), broadly infundibuliform, gibbous *with a central umbo*, always very dry, the surface

Clitocybe

becoming silky-even or squamulose; margin involute, pubescent, always *even;* flesh white, at length soft. **Stem** as much as 10 cent. (4 in.) long, 2.5 cent. (1 in.) thick, solid, compact, but internally spongy, *elastic*, attenuated upwards, fibrilloso-striate, whitish. **Gills** *deeply decurrent*, pointed at both ends, somewhat crowded, soft, simple, *whitish*, not changeable.

The pileus is always very dry because the surface absorbs moisture. Odour weak, pleasant, almost that of *A. infundibuliformis*. On account of its gigantic stature and colour, it has often been interchanged with *A. giganteus* Sow.; it is in no wise, however, allied to that species, but is so closely allied to *A. infundibuliformis* that it might be taken for a very luxuriant form of it.

In grassy places, banks of hedges, &c. Frequent. July–Oct.

Spores sphæroid-ellipsoid, 4–6 × 3–4 mk. *K.;* 5 × 3 mk. *W.G.S.;* 8 × 4 mk. *B.* Name—*magnus*, large. The *largest* of the section. *Fl. Wett. p.* 329. *Fr. Monogr.* i. *p.* 119. *Hym. Eur. p.* 93. *B. & Br. n.* 1337. *S. Mycol. Scot. n.* 97. *C. Illust. Pl.* 135. *Buxb. Cent.* 4. *t.* 1. A. giganteus *Leys. & Auct.* A. giganteus *Sow.* is a true Paxillus.

162. A. infundibuliformis Schæff.—**Pileus** about 7.5 cent. (3 in.) broad, *flesh-colour then becoming pale tan, fleshy* at the disc, otherwise thin, when young moderately firm, convexo-depressed, *gibbous* with an umbo, involute at the margin; when fuller grown softer, flaccid, wholly infundibuliform, on closer inspection *silky* on the surface, hence bibulous, never moist; flesh soft, white. **Stem** 5–7.5 cent. (2–3 in.) long, 6–10 mm. (3–5 lin.) thick, *spongy-stuffed*, externally firm, *elastic, conico-attenuated*, more rarely equal, pallid, white-tomentose at the base. **Gills** very decurrent, *somewhat crowded*, very much pointed at each end, soft, *shining white*.

Stem often eroded by larvæ and hollow. *Odour*, especially when damp, weak but *pleasant*. The pileus varies in colour, passing from rufescent into tan and white, but not white at the first.

In woods and grassy places. Common. July–Nov.

Spores 5–6 × 3–4 mk. *B.* Name—*infundibulum*, a funnel; *forma*, form. Funnel-shaped. *Schæff. t.* 212. *Fr. Monogr.* i. *p.* 119. *Hym. Eur. p.* 93. *Berk. Out. p.* 110. *t.* 5. *f.* 2. *C. Hbk. n.* 96. *Illust. Pl.* 107. *S. Mycol. Scot. n.* 98.

* **A. membranaceus** Fr. differs in all its parts being thinner, in its *equal stem*, in the *pileus* being *without an umbo*, and in its brighter colour. Earlier than the typical *A. infundibuliformis*.

In fir woods and grassy places. Rare. Spores 7 mk. *W.G.S.* Name—*membrana*, a thin skin. From its structure. *Fr. Monogr.* i. *p.* 120. *Hym. Eur. p.* 94. *C. Hbk. n.* 96. *S. Mycol. Scot. n.* 98. *Fl. Dan. t.* 1012. *Saund. & Sm. t.* 39. *f.* 3, 4. *Paul. t.* 66. *f.* 1.

163. A. trullæformis Fr.—**Pileus** 5 cent. (2 in.) broad, *fuscous-cinereous*, unchangeable, *fleshy*, infundibuliform, the margin flattened, always obtuse, *flocculoso-villous* and hence always dry; flesh

equal, snow-white. **Stem** about 5 cent. (2 in.) long, *spongy-stuffed,* firm, elastic, attenuated upwards, *fibrilloso-striate,* cinereous, villous downwards. **Gills** truly decurrent, *distant,* connected by veins, 4–6 mm. (2–3 lin.) broad, *shining white.* Clitocybe.

Odour not remarkable. Approaching *A. cyathiformis* in the colour of the pileus and stem, but very different in the snow-white flesh and in the colour being by no means hygrophanous. The figure of Kalchbrenner (*t.* 6. *f.* 1) differs in its smaller stature, in the fistulose stem and plane pileus being much thinner, and in the adnate gills.

On the border of fir wood. Coed Coch. Oct.

Spores ovoid-pruniform, finally punctate 6 mk. *Q.* Name—*trulla* a ladle, basin; *forma,* form. Basin-shaped. *Fr. Monogr.* i. *p.* 121. *Hym. Eur. p.* 94. *B. & Br. n.* 1108. *C. Hbk. n.* 97.

164. A. incilis Fr.—**Pileus** 5 cent. (2 in.) and more broad, *ruddy-brick-red, fleshy,* plano-umbilicate, then infundibuliform, even, *silky-flocculose,* but when young appearing smooth, obtuse, the *inflexed margin crenate.* **Stem** curt, 12 mm. (½ in.) rarely more long, 4–6 mm. (2–3 lin.) broad, or broader when compressed, *hollow,* fibrous, tough, unequal, commonly *attenuated downwards, brick colour,* at first *covered over* with a very delicate *flocculose pruina* which is easily rubbed off. **Gills** more or less decurrent, arcuate, 4–6 mm. (2–3 lin.) broad, *distant, reticulated with veins* or distinct, *white,* then becoming pale, but not yellow.

A changeable species. Odour sometimes mealy, sometimes obsolete. Not moist and not at all hygrophanous. Abnormal in this series. There is a smaller variety with the stem somewhat stuffed, becoming pallid fuscous-brick colour, and the pileus irregular, eccentric, somewhat silky, becoming fuscous-tan, becoming pale, the spreading margin undulato-crisped.

In woods. King's Lynn.

Name—*incilis,* cut in, incised. From the crenate pileus. *Fr. Monogr.* i. *p.* 121. *Hym. Eur. p.* 94. *B. & Br. n.* 1929. *C. Illust. Pl.* 281. *a.*

165. A. parilis Fr.—**Pileus** 18 mm. (¾ in.) broad, fuscous then *grey-whitish,* but not hygrophanous, slightly fleshy, plane, depressed at the disc, *atomate* or flocculose at the disc, without striæ; margin deflexed, involute. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, *stuffed, tough,* equal, even, *smooth,* naked, *becoming fuscous-grey.* **Gills** *deeply decurrent,* very *crowded,* narrow, *whitish-grey.*

Abnormal in this series. Allied to *A.* (*Trich.*) *cælatus* and *A.* (*Clit.*) *hirneolus.* Its habit is that of *Omphaliæ,* but the stem is by no means cartilaginous.

By the sides of plantations. Coed Coch.

Spores ovoid, spotted, 7 mk. *Q.* Name—*parilis,* equal, perhaps symmetrical. *Fr. Monogr.* i. *p.* 122. *Hym. Eur. p.* 95. *Icon. t.* 48. *f.* 6. *B. & Br. n.* 1202.

Clitocybe.

** *Pileus coloured or pallid*, &c.

166. A. gilvus Pers.—**Pileus** 5–10 cent. (2–4 in.) broad, *pale-yellowish, fleshy, compact, convex then depressed*, very obtuse, even, smooth, *dampish when fresh*, polished and *shining* when dry, here and there spotted as with drops, the margin remaining long involute; flesh compact, not laxly floccose, but at length fragile, *somewhat of the same colour as the pileus*. **Stem** 2.5–5 cent. (1–2 in.) and more long, 12 mm. (½ in.) and more thick, *solid, fleshy*, stout, not elastic, somewhat equal, smooth, paler than the pileus, villous at the base. **Gills** decurrent, thin, *very much crowded*, often *branched*, arcuate, narrow, *pallid then ochraceous*.

Odour not remarkable. The stem has been noticed at length also hollow, perhaps eroded by larvæ. It corresponds with the *Paxilli*. The primary form, which is very different from all the rest, is curt, obese, robust, scarcely ever infundibuliform. *B. protracta* (lengthened out), externally and internally pallid-ochraceous, pileus somewhat thin, very broad (10–20 cent., 4–8 in.) and infundibuliform, the somewhat thin stem elongated, 10 cent. (4 in.)

In woods. West Farleigh, Kent. 1874.

Spores sphæroid or subsphæroid, 4–5×5 mk. *K.* Name—*gilvus*, pale yellow with a slight tinge of brown. *Pers. Syn. p.* 448, *partly*. *Fr. Monogr. p.* 122. *Hym. Eur. p.* 95. *B. & Br. n.* 1508. *Fl. Dan. t.* 1011. *C. Illust. Pl.* 136.

167. A. subinvolutus Batsch.—**Pileus** brick-colour, convex, depressed, smooth, margin closely involute; flesh pallid. **Stem** paler, stout, straight, somewhat equal, veined on the lower part with oblique coalescing slightly elevated wrinkles, tomentose and inclining to flesh-colour above towards the gills, base obtuse. **Gills** decurrent, rather broad, of the same colour as the pileus.

The stem is rough on the surface and destitute of lustre. It resembles *A. involutus* (*Paxillus involutus*) in size and habit, in the crenate and involute margin of the pileus, and in the stem being obsoletely veined at the base and tomentose towards the gills.

Under Scotch fir. Laxton Park, Norths. Oct.

Name. From its likeness to *A. involutus*, with which Batsch compares it. *Batsch t.* 204. *B. & Br. n.* 1508*. *C. Illust. Pl.* 108.

168. A. spinulosus Stev. & Sm.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, creamy flesh-colour, fleshy, convex then plane or depressed, gibbous or umbonate, leathery, smooth, edge even and incurved; flesh white. **Stem** 5–7.5 cent. (2–3 in.) long, solid or stuffed, attenuated from the thickened base, *fibrillose*, whitish, *zoned with crowded spots* of the same colour as the pileus. **Gills** deeply decurrent, single, rather crowded, white then light-yellow.

Odour sweet and pleasant. Growing in large patches, singly or two or three together.

Among grass by wayside. Greenings, 1868. Nov. Clitocybe.

The spinulose spores mark this as a distinct species. It differs in habit from *A. geotropus*, which has even spores. Saunders and Smith figured the plant as *A. subinvolutus* Batsch, which Fries at first regarded as a variety of *A. geotropus*. In 'Hym. Eur.' Fries records it as a distinct species, and refers to the figure of Batsch as doubtful. Berkeley having found the true plant of Batsch, it becomes necessary to change the name of Smith's plant. Spores spinulose, 9 mk. *W.G.S.* Name—from the *spinulose* spores. *Stev.—Saund. & Sm. t.* 36. A. subinvolutus *Saund. & Sm.*, *Fr. Hym. Eur. p.* 96. A. geotropus var. subinvolutus, *C. Illust. Pl.* 177.

169. A. geotropus Bull.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, tan-flesh-colour, *truly fleshy*, convex then plano-depressed, commonly *gibbous*, even, *very smooth*, *moist* in rainy weather, when young spotted as with drops, the spots commonly vanishing with age; margin thin, pubescent, inflexed; *flesh white*. **Stem** 5–7.5 cent. (2–3 in.) long, *solid*, fleshy, not elastic, slightly attenuated upwards, *somewhat fibrillose*, *white*, becoming yellow. **Gills** deeply decurrent, *simple*, 4–6 mm. (2–3 lin.) broad, *somewhat crowded*, *white*, but becoming pale.

Corresponding with *A. maximus*, but *firmer*, smooth, and more changeable in colour. The pileus is thinner and the gills are less crowded than in *A. gilvus*, &c. It varies with the stem curt.

In woods. Frequent. Sept.–Oct.

Spores 5–7 mk. *W.G.S.* Name—γῆ, the earth; τρέπω, to turn. From the turned-down margin. *Bull. t.* 573. *f.* 2. *Fr. Monogr.* i. *p.* 123. *Hym. Eur. p.* 96. *Berk. Out. p.* 110. *C. Hbk. n.* 98. *Illust. Pl.* 83. *S. Mycol. Scot. n.* 99. *Hussey* i. *t.* 66. *Harz. t.* 75. *Leiell. t.* 670. *Paul. t.* 112. A. pileolarius *Sow. t.* 61. *Grev. t.* 41.

170. A. splendens Pers.—**Pileus** 7.5 cent. (3 in.) broad, *pale-yellowish becoming yellow*, somewhat fleshy, thin especially round the shortly reflexed margin, plano-depressed, at length infundibuliform, even, smooth, *shining*. **Stem** 4–5 cent. (1½–2 in.) long, 8–10 mm. (4–5 lin.) thick, solid, sometimes equal and straight, sometimes attenuated from the base, ascending, even, smooth, of the same colour as the pileus. **Gills** deeply decurrent, thin, crowded, simple, white but becoming light-yellow when old.

It varies with the pileus excentric, and in larger specimens with the margin repand. Pileus not flaccid, much thinner than that of *A. gilvus*. Gills less crowded. Flesh white. Intermediate between *A. gilvus* and *A. flaccidus*. Commonly single, not cæspitose like *A. inversus* and *A. flaccidus*.

In woods among dead leaves. Reading, 1874, &c. Sept.

Name—*splendens*, shining. *Pers. Syn. p.* 452. *Hym. Eur. p.* 96. *Icon. t.* 55. *f.* 1. *B. & Br. n.* 1510. *C. Illust. Pl.* 109.

171. A. inversus Scop.—**Pileus** 5–7.5 cent. (2–3 in.) broad,

Clitocybe. brick colour or liver-rufescent, *fleshy*, *somewhat fragile*, in no wise flaccid, convexo-plane, obtuse, then infundibuliform and undulated, even, *very smooth*, *moist* when fresh, but never guttate, sloping towards the margin, varying excentric ; flesh not thick but compact, *somewhat of the same colour as the pileus*. **Stem** sometimes stuffed, commonly *hollow*, hence compressed, externally with a *slightly rigid* outer coat, not elastic, without a bulb, smooth, *whitish*, somewhat rooted and white-villous at the base. **Gills** truly decurrent, scarcely 4 mm. (2 lin.) broad, *crowded*, simple, *whitish*, but then of the same colour as the pileus at the edge.

Odour peculiar, slightly acid. It corresponds with *A. infundibuliformis* Schæff., and like it presents two forms—one, which is at the first gibbous, being the rarer ; the other, which is destitute of an umbo, being the more frequent and nearest to *A. splendens*. It differs from *A. gilvus* in its entire nature. The primary form is *regular*, solitary, with the stem attenuated upwards, and of the same colour as the pileus. More frequently it is *somewhat cæspitose*, with the stems curved and compressed, and the pileus very obtuse, unequal, and somewhat repand. *A. lobatus* Sow. is a luxuriant condition of this ; stem thickened upwards, pileus somewhat date-brown and undulato-lobed.

In woods, chiefly pine. Frequent. Aug.–Nov.

When dry the pileus has a very smooth oiled appearance. Spores 3 mk. *W.G.S.* Name—*inverto*. Inverted. *Scop. Carn. p.* 445. *Fr. Monogr.* i. *p.* 124. *Hym. Eur. p.* 97. *Berk. Out. p.* 111. *C. Hbk. n.* 99. *Illust. Pl.* 84. *S. Mycol. Scot. n.* 100. *Schæff. t.* 65. A. infundibuliformis *Bull. t.* 553. A. lobatus *Sow. t.* 186.

172. A. flaccidus Sow.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *tawny-ferruginous*, shining, not becoming pale, *slightly fleshy*, tough, orbicular, *flaccid* (especially when dry), at the first *umbilicate*, always without an umbo, *then infundibuliform*, the spreading border slightly convex, *smooth*, even, rarely rimuloso-squamulose ; flesh thin, pallid, somewhat fragile when fresh, flaccid however when dry. **Stem** curt, 2.5–5 cent. (1–2 in.) long, thin, 4–6 mm. (2–3 lin.) thick, *somewhat hollow*, *elastic*, *tough*, somewhat equal, polished, naked, rubiginous-ferruginous, thickened and villous at the base. **Gills** deeply, almost *obconico-decurrent*, remarkably *arcuate*, *very crowded*, narrow, scarcely 2 mm. (1 lin.) broad, simple, whitish then *becoming yellow*.

Gregarious, forming rings, the stems often growing together under the soil, but also solitary, regular. The gills become yellow sometimes wholly, sometimes only at the edge. Allied to *A. inversus*.

In woods. Frequent. Sept.–Nov.

Spores 4 mk. *W.G.S.*; 4–5 × 3–4 mk. *B.* Name—*flaccidus*, flaccid, limp. *Sow. t.* 185. *Monogr.* i. *p.* 124. *Hym. Eur. p.* 97. *Berk. Out. p.* 111. *C. Hbk. n.* 100. *Illust. Pl.* 123. *S. Mycol. Scot. n.* 101. *Fl. Batav. t.* 1044. Var. lobatus Sow. *C. Illust. Pl.* 137.

173. A. vermicularis Fr.—**Pileus** *beautiful flesh-colour* then tan-flesh-colour, fleshy, *thin*, umbilicato-convex then reflexed, infundibuliform, undulato-lobed, even, smooth. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, *hollow*, equal, at length (*soon*) *compressed*, *smooth*, *shining*, *white*, not elastic, fragile rather. **Gills** *shortly decurrent*, very crowded, thin, *white*. Clitocybe.

Gregarious, inodorous, *somewhat fragile*, *moist* in rainy weather, *slightly hygrophanous*.

In fir wood. Forres, 1883. Sept.

Name—*vermis*, a worm. From the peculiar fleshy colour. *Fr. Monogr.* i. *p.* 125. *Hym. Eur. p.* 98. *Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 21.

174. A. senilis Fr.—**Pileus** 5 cent. (2 in.) and more broad, *dingy-tan*, fleshy-membranaceous, flaccid, the disc depressed when young, soon infundibuliform, smooth, *concentrically full of scars*, margin spreading (not reflexed). **Stem** 4–5 cent. (1½–2 in.) long, 4–6 mm. (2–3 lin.) thick, solid, equal, often ascending, smooth, whitish, naked at the base. **Gills** deeply decurrent in a straight line, linear, narrow, very crowded, at first whitish, then of the same colour as the pileus.

The colour is not easily described, of a dingy fuscous tan. Gregarious, inodorous. It approaches *A. flaccidus*, though not in colour.

On lawn. Coed Coch, 1880. Autumn.

Spores 7 × 3 mk. *W.P.* Name—*senilis*, pertaining to age. From the scars on the pileus. *Fr. Hym. Eur. p.* 98. *Icon. t.* 56. *f.* 1. *B. & Br. n.* 1847. *C. Illust. Pl.* 110.

**** Pileus shining whitish, &c.*

175. A. catinus Fr.—**Pileus** 5 cent. (2 in.) broad, at first *white*, *in no wise hygrophanous*, then passing into pale flesh-colour during rain, and into tan-colour in dry weather, *fleshy*, moderately thin, plane then infundibuliform, always obtuse, even, *smooth;* flesh thin, *flaccid*, white. **Stem** 7.5 cent. (3 in.) long, 12 mm. (½ in.) thick, *stuffed*, internally spongy, *elastic*, tough, thickened and tomentose at the base. **Gills** decurrent, *straight*, *descending* not horizontal, broad, not much *crowded*, persistently white.

The gills are broader than those of neighbouring species. The stem has occurred equal. Allied to *A. flaccidus*, and very much allied to *A. infundibuliformis;* it is strongly scented with the pleasant odour of the latter, but is singular in the colour being *primarily* wholly *white*, then flesh-colour during rain, not becoming pale. For this reason it is analogous with *A. phyllophilus*, which, however, is easily distinguished by its pileus never being infundibuliform, by its thin stem, by its adnate gills, and by being inodorous.

Clitocybe. Among dead leaves. Ludlow, 1881. Autumn.

Name—*catinus*, a bowl. From its shape. *Fr. Monogr.* i. *p.* 126. *Hym. Eur. p.* 99. *Icon. t.* 51. *f.* 4. *C. Illust. Pl.* 111. Compare *Bull. t.* 286.

176. A. tuba Fr. Wholly white.—**Pileus** 5–7.5 cent. (2–3 in.) broad, fleshy, *thin*, convexo-plane, umbilicate, even, always without striæ at the margin, *dead white when moist, shining whitish when dry* (somewhat hygrophanous), properly smooth, but at the first sprinkled with a very thin, slightly silky, easily separating film. **Stem** 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed then *hollow*, at length compressed, very *tough*, *equal*, *naked* upwards, not pruinate. **Gills** *deeply* and truly *decurrent*, *horizontal*, *very crowded*, 6 mm. (3 lin.) *broad*, white becoming pale.

Gregarious, inodorous. Allied to *Cyathiformes* from the somewhat hygrophanous pileus. Nearest to *A. pithyophilus*, but easily distinguished by the form of the pileus (umbilicate) and by the gills being deeply and attenuato-decurrent.

On dead leaves, &c. Coed Coch, 1878, &c. Autumn.

Name—*tuba*, a trumpet. From its shape. *Fr. Monogr.* i. *p.* 127. *Hym. Eur. p.* 99. *Icon. t.* 51. *f.* 2. *B. & Br. n.* 1736. *C. Illust. Pl.* 112. *Paul. t.* 65. *f.* 2–5 (base naked, but also and commonly villous).

177. A. ericetorum Bull.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *white*, fleshy, globose then plane or concave, *somewhat turbinate*, obtuse, often excentric and when irregular somewhat repand, smooth, *shining*. **Stem** scarcely 2.5 cent. (1 in.) long, 4–6 mm. (2–3 lin.) thick, *solid*, but floccoso-soft internally, evidently *attenuated downwards*, sometimes compressed, tough, *naked*, smooth, white. **Gills** *rather shortly decurrent*, 2–4 mm. (1–2 lin.) broad, *somewhat distant*, connected by veins at the base, persistently white.

So like *Hygrophorus niveus* that it is difficult to distinguish between the figures of the two species, but the structure is very different; for *A. ericetorum* is *arid*, *soft*, *elastic*, *with a pleasant odour*—in short nearest to *A. infundibuliformis*.

Among short grass. Coed Coch, 1872, &c. Sept.–Nov.

Name—*ericetum*, a heath. *Bull. t.* 551. *f.* 1. *D—F. Fr. Monogr.* i. *p.* 127. *Hym. Eur. p.* 99. *B. & Br. n.* 1338. *C. Illust. Pl.* 138.

SERIES B.

IV.—Cyathiformes.

178. A. cyathiformis Fr.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, black-umber, &c., slightly fleshy, plano-depressed when young,

then infundibuliform, *even*, smooth, hygrophanous, somewhat shining when moist, becoming pale and opaque when dry, undulated when luxuriant; flesh scissile, watery, somewhat of the same colour as the pileus; the *margin remaining long involute*. **Stem** 5–10 cent. (2–4 in.) long, 6–8 mm. (3–4 lin.) thick, *spongy-stuffed*, elastic, at length also hollow, attenuated upwards, fuscous-*fibrillose*, *somewhat reticulated*, of the same colour as the pileus or a little paler, *naked* (not pruinose) *at the apex*, villous at the base. **Gills** *adnate*, decurrent on account of the changed form of the pileus, joined behind, *distant*, *cinereous-fuscous*, occasionally branched. Clitocybe.

Very changeable. Commonly *becoming black-umber*, but varying paler fuscous-cinereous; also flesh-colour then tan, pale cinnamon, becoming fuscous then clay or tan (*Bull. t.* 575. *f.* F—H.), the gills whitish, becoming fuscous, rufous (*Bolt. t.* 59.) When old the margin is expanded, nay slightly striate. In sterile ground, the stem is more slender, only 2 mm. (1 lin.) thick upwards, fibrilloso-striate; the pileus somewhat membranaceous, at the first deeply umbilicate, the margin naked; the gills grey. It occurs also on rotten wood.

In woods, &c. Common. Aug.–Nov.

Spores 8×5 mk. *W.G.S.*; 10–12×5–6 mk. *B.* Name—*cyathus*, a cup; *forma*, form. Cup-shaped. *Monogr.* i. *p.* 128. *Hym. Eur. p.* 100. *Berk. Out. p.* 111. *C. Hbk. n.* 101. *Illust. Pl.* 113. *S. Mycol. Scot. n.* 102. *Hussey* ii. *t.* 1. *Gonn. & Rab. t.* 9. *f.* 1 (*f.* 2 monstrous), *Hoffm. Anal. t.* 3. *f.* 1. *Bull. t.* 575. *f. M.* &c. *Vaill. t.* 14. *f.* 1–3.—*Bolt. t.* 145. *Holmsk. Ot.* ii. *t.* 41. *Sow. t.* 363 (various forms, no good figure).

179. A. expallens Pers.—**Pileus** when young somewhat fleshy, convexo-plane, obtuse, 2.5–5 cent. (1–2 in.) broad, even, *cinereous-fuscous*, at first sprinkled with white silky dew, then plano-infundibuliform, livid, the disc slightly fleshy, *the soon expanded margin membranaceous and striate*. **Stem** 5 cent. (2 in.) long, about 4 mm. (2 lin.) thick, rarely more, flocculose internally, soon hollow, tough, equal, *smooth*, *white-silky at the apex*. **Gills** *decurrent*, acute at both ends, thin, slightly distant, soft, *white-cinereous*.

Wholly watery, very hygrophanous; pileus when dry hoary-whitish or tan colour. It is smaller, earlier, and paler than *A. cyathiformis*, and can with difficulty be distinguished from thinner forms of that species. The gills are *more crowded*.

In mixed wood. Glamis, 1874. Aug.

Name—*ex*, and *palleo*, to be pale. In 'Icones' Fries gives the form originally described as A. expallens by Persoon, and represented in *Bull. t.* 575. *f.* i. *G.*, and the form described under the same name by himself, and represented in *Icon. t.* 56. *f.* 2, as specifically distinct, and regards A. expallens *Pers.* (*Fr. Icon. t.* 56. *f.* 3.) as a form of *A. cyathiformis*. In 'Hym. Eur.,' however, he includes the two forms under one name. *Pers. Syn. p.* 461. *Fr. Monogr.* i. *p.* 128. *Hym. Eur. p.* 100. *Icon. t.* 56. *f.* 2. B. *trivialis*, becoming fuscous, stem longer. *Bull. t.* 575. *f.* i. *G.* A. expallens *Fr. Icon. t.* 56.

Clitocybe. *f.* 3. *B. & Br. n.* 1511. *S. Mycol. Scot. n.* 103. A. cyathiformis var. expallens *C. Illust. Pl.* 220.

180. A. obbatus Fr.—**Pileus** 2.5 cent. (1 in.) broad, fuscous-blackish, becoming very pale when dry, cinereous, *somewhat membranaceous*, scissile only at the disc, convexo-plane with a broadly umbilicate disc, smooth, *striate to the middle.* **Stem** 5 cent. (2 in.) and more long, equal, 2–4 mm. (1–2 lin.) thick, but in becoming compressed 6–8 mm. (3–4 lin.) broad, *hollow*, often ascending or flexuous, *smooth, naked, slightly striate* (striæ interrupted white), fuscous-cinereous. **Gills** *slightly decurrent, distant*, broad, dark *cinereous, white-pruinose.*

B. Pileus infundibuliform; stem spongy-soft, internally fistulose with floccose vanishing villous down, wholly smooth, even and naked; gills almost bluish-grey-cinereous. The whole very watery, tough, flexible, inodorous. Easily distinguished by its slender stature, its striate pileus, and distant gills, which are at length white pulverulent, as in *A. melleus* or *laccatus.*

In fir woods. Ely, 1870, &c. Nov.

Name—*obba*, a kind of cup. From its shape. *Fr. Monogr.* i. *p.* 129. *Hym. Eur. p.* 101. *Icon. t.* 57. *f.* 1. *B. & Br. n.* 1200*. *Buxb.* iv. *t.* 3. *f.* 1. *Bull. t.* 248 *f. C.* represents its habit excellently, but the stem is coloured white. *C. Illust. Pl.* 230.

181. A. pruinosus Lasch.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *brown*, becoming cinereous when dried, hygrophanous, fleshy-membranaceous, when young umbilicate and pruinose, when full grown broadly infundibuliform and smooth, sometimes squamulose; flesh thin, becoming cinereous. **Stem** 2.5–5 cent. (1–2 in.) long, 2–3 mm. (1-1½ lin.) thick, stuffed or obsoletely fistulose, equal, often ascending or curved, *fibrillose* when young, of the same colour as the pileus, but often paler. **Gills** decurrent, *crowded*, narrow, slightly arcuate when young, scythe-shaped when full grown, white then dingy.

Thin, slightly rigid, inodorous. The *pruina* on the pileus is *lead-colour.* The stem is more solid, thickened, and flocculose at the base. Easily distinguished from neighbouring species by its habit and colours. Like *A. cyathiformis*, but perhaps nearer to *Hydrogrammi.*

On rotten wood and on the ground. Kew, 1882. Nov.–Dec.

Name—*pruina*, hoar-frost. From the pruina on the pileus. *Lasch.—Fr. Hym. Eur. p.* 101. *Icon. t.* 57. *f.* 3. *C. Illust. Pl.* 231.

182. A. concavus Scop.—**Pileus** 2.5–5 cent. (1–2 in.) broad, hygrophanous, *fuliginous* when moist, cinereous or clay-hoary when dry, slightly fleshy, very thin, *flaccid*, at first plano-convex, *widely and deeply umbilicate*, then wholly concave (not infundibuliform), smooth, *the convexo-plane border undulated*, margin

even; flesh tough, pallid. **Stem** 2.5 cent (1 in.) or a little more broad, 2–4 mm. (1–2 lin.) thick, stuffed, tough, but wholly fibrous-soft, commonly curt, equal, naked, smooth, *cinereous*. **Gills** decurrent, *arcuate, very crowded*, 2–4 mm. (1–2 lin.) broad, dark *fuliginous*. Clitocybe.

Often gregarious; almost inodorous. At first sight like a species of *Omphalia*.

In woods. Rare.

Spores ovoid, comma-shaped, slightly punctate, greenish, 10 mk. *Q.* Name —*concavus*, concave. *Scop. Carn. p.* 449. *Fr. Monogr.* i. *p.* 130. *Hym. Eur. p.* 102. *Icon. t.* 57. *f.* 2. *B. & Br. n.* 1512.

183. A. brumalis Fr.—**Pileus** livid when moist, whitish and at length becoming yellow when dry, commonly darker at the disc, fleshy-membranaceous, at first convex, umbilicate, reflexed at the circumference, 2.5 cent. (1 in.) broad, then infundibuliform, often irregular and undulated, as much as 5 cent. (2 in.) broad, smooth, even. **Stem** about 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, slightly firm, hollow, equal or slightly thickened at the apex, at length compressed, somewhat incurved, smooth, naked, becoming livid, white when dry, white-villous at the base. **Gills** decurrent, at first arcuate, then descending, 2 mm. (1 lin.) broad, crowded, distinct, livid, then becoming yellow-white.

Odour weak, not unpleasant. B. Wholly watery whitish. Pileus infundibuliform, margin deflexed, milk-white when dry; stem fistulose, somewhat striate, smooth at the base; gills less crowded, but rather broad, whitish. *Bull. t.* 278. *A—B.*

In woods. Common. Oct.–Jan.

Spores 3 mk. *W.G.S.* Name — *bruma*, winter. *Fr. Monogr.* i. *p.* 131. *Hym. Eur. p.* 103. *Berk. Out. p.* 112. *C. Hbk. n.* 102. *Illust. Pl.* 114. *S. Mycol. Scot. n.* 104.

V.—Orbiformes.

* *Gills becoming cinereous.*

184. A. metachrous Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, fuscous-cinereous when young, then livid, whitish when dry, slightly fleshy, at first convex, soon rather plane or depressed, margin even, slightly striate only when old. **Stem** about 4 cent (1½ in.) long, 4 mm. (2 lin.) thick, but broader when compresssed, stuffed when young, round, soon hollow and hence becoming easily compressed, equal, tough, externally fibrous, grey, *white-pruinose at the apex*. **Gills** adnate, scarcely decurrent, crowded, linear, plane, thin, whitish-cinereous.

Clitocybe.

Protean, but the essential marks by which it can always be easily distinguished are these: *odour none, stem pruinose at the apex, pileus convex* (and somewhat umbonate) *then plane and depressed, gills cinereous-whitish.* One variety has the darker disc fuscous, another is flesh-coloured, another dingy-rufescent (*Batsch f.* 102).

In grassy woods, among leaves, &c. Common. Aug.–Nov.

Spores 6×3 mk. *W.P.* Name — μετά, of change of condition; χρώς, colour. Changing colour. *Fr. Monogr.* i. *p.* 133. *Hym. Eur. p.* 103. *Berk. Out. p.* 112. *C. Hbk. n.* 103. *Illust. Pl.* 115. *S. Mycol. Scot. n.* 105.

185. A. pausiacus Fr.—**Pileus** 2.5 cent. (1 in.) broad, cinereous, becoming somewhat olive, fleshy, thin, at first convex (sometimes umbonate), then plane and depressed, even, smooth (when young covered over with hoary silky dew). **Stem** 5–7.5 cent. (2–3 in.) long, 3 mm. (1½ lin.) thick, tough, somewhat hollow, equal, striate and often undulated on the surface, smooth, but white pruinose at the apex, *cinereous*. **Gills** very broad behind and obtusely adnate, very crowded, *semicircular*, manifestly *inclining to olivaceous* at every stage of growth.

Odour weak, but frumentaceous. Allied to *A. metachrous*, but easily distinguished by its *very broad* and *olivaceous gills*. Intermediate between *A. metachrous* and *A. ditopus*.

On the ground. Coed Coch, 1878. Oct.

Name—*pausia*, an olive. From the colour of the gills. *Fr. Monogr.* i. *p.* 133. *Hym. Eur. p.* 104. *Icon. t.* 58. *f.* 2. *B. & Br. n.* 1737.

186. A. ditopus Fr.—**Pileus** 5 cent. (2 in.) and more broad, cinereous, somewhat fleshy, *tough*, at first convexo-plane and obtuse, at length inverted, infundibuliform and often undulato-lobed. **Stem** 5 cent. (2 in.) long, 6 mm. (3 lin.) and more thick, *hollow then compressed*, equal, *naked, pale cinereous*, pubescent at the base. **Gills** adnate, *crowded*, thin, at length turned upwards and divergent in the lobes, *dark cinereous*.

Its stature is that of *A. metachrous*, but it has a very *strong odour of new meal*. Remarkable as compared with the rest for its toughness and irregularity of form, and for being found only in a rotten condition in later autumn when the rest are in fullest vigour.

Among dead leaves. Moccas Park, 1881.

Name—διττός, twofold; πούς, a foot. Probably from stems growing two together. *Fr. Monogr.* i. *p.* 133. *Hym. Eur. p.* 104. *C. Illust. Pl.* 116.

** *Gills whitish.*

187. A. diatretus Fr.—**Pileus** slightly fleshy, tough, when young convex, regular, obtuse, 2.5 cent. (1 in.) broad, the involute margin pubescent, when full grown plano-depressed, 2.5–5 cent.

(1–2 in.) broad, often flexuous, even, smooth, hygrophanous, *flesh-colour* when moist, at length tan colour and flaccid, the spreading margin naked, whitish when dry. **Stem** 4–5 cent. (1½–2 in.) long, 4 mm. (2 lin.) thick, spongy-stuffed then hollow, elastic, flexile, equal, round, even, smooth, pallid, *naked at the apex*, pubescent at the base. **Gills** *adnate*, but sharp-pointed behind and decurrent with a tooth, *crowded*, 2 mm. (1 lin.) broad, at first *white-flesh-colour* then becoming pale-white. Clitocybe.

Almost inodorous. Easily distinguished by its unusual colour. Pileus slightly rigid when young. The stem is not cartilaginous.

In pine wood. Coed Coch. Autumn.

In 'Hym. Eur.' Fries describes the stem as tense and straight. Name —διάτρητος, perforate. Meaning not apparent. *Fr. Monogr.* i. *p.* 135. *Hym. Eur. p.* 104. *B. & Br. n.* 1406. *C. Illust. Pl.* 232.

188. A. fragrans Sow.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *of one colour not darker at the disc, watery pallid* when moist, *whitish* when dry, slightly fleshy, rather plane, at first convex then somewhat depressed, smooth, even or when moist slightly striate at the margin. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed then hollow, elastic, equal, smooth, even, most frequently, however, villous at the base, and here and there obsoletely pruinose at the apex. **Gills** adnate, sharp-pointed behind, somewhat decurrent, *rather crowded*, broader than the watery flesh of the pileus, whitish.

Habit not distinguished, but very remarkable for its *strong fragrant odour* of anise.

In mossy places in woods and pastures. Common. July–Jan.

Spores 6×4 mk. *W.G.S.* Very remarkable for its power of standing cold. On the 30th December 1882 I gathered it, after very severe frost (Ther.—0 for three nights in succession) and a week of complete thaw, in a perfectly fresh condition, and with the smell unchanged. Name—*fragrans*, sweet-scented. *Sow. t.* 10. *Fr. Monogr.* i. *p.* 135. *Hym. Eur. p.* 105. *Berk. Out. p.* 112. *C. Hbk. n.* 104. *Illust. Pl.* 124. *S. Mycol. Scot. n.* 106. *Pers. Myc. Eur.* 3. *t.* 27. *f.* 5. *Krombh. t.* 1. *f.* 34-38. *Letell. t.* 658. *Brig. t.* 19. *Hoffm. Anal. t.* 3. *f.* 2.

189. A. angustissimus Lasch.—**Pileus** about 5 cent. (2 in.) broad, *watery white*, shining whitish when dry, fleshy, thin, plano-depressed, not umbilicate, even, smooth; margin spreading, slightly striate when old; flesh, though very thin, moderately firm. **Stem** *stuffed, internally fibrous*, 2–3 mm. (1–1½ lin.) thick, often curved and flexuous, 5 cent. (2 in.) long, smooth or pubescent at the base, *naked at the apex*. **Gills** *somewhat decurrent*, very *crowded*, thin, *narrow, white*.

Clitocybe.

Very like *A. fragrans*, but *inodorous;* colour purer white and stem thinner. Less watery than others of this group.

Among leaves. Ascot, 1873, &c. Oct.

Name—*angustus*, narrow. From the *very narrow* gills. *Lasch. n.* 523. *Fr. Monogr.* i. *p.* 136. *Hym. Eur. p.* 105. *Icon. t.* 59. *f.* 2. *C. Illust. Pl.* 125. *B. & Br. n.* 1407.

190. A. obsoletus Batsch.—**Pileus** 2.5 cent. (1 in.) or a little more broad, at first grey but soon turning whitish, *clay-white when dry*, sometimes inclining to flesh-colour, somewhat fleshy, *soft*, convex or gibbous then plane and depressed, even, smooth. **Stem** 5 cent. (2 in.) long, 6–8 mm. (3–4 lin.) thick, stuffed then soon *hollow*, *elastic*, tough, at first round, then often compressed, but never flexuous, even, smooth, very obsoletely pruinate at the apex, whitish. **Gills** *obtusely adnate*, *almost rounded* behind, then adnato-decurrent, *broad*, crowded, grey-whitish.

Gregarious, *obsoletely fragrant*. Intermediate between *A. metachrous* and *A. fragrans*.

Among grass and leaves. Coed Coch, &c. Oct.–Nov.

Odour varying from that of bitter almonds to that of aniseed. *B. & Br.* Name—*obsoletus*, obsolete, faint. The term *obsoletus* used by Batsch does not refer to an odour less than that of *A. fragrans*, but to the pallid tint as compared with his *A. obsolescens*. *B. & Br. Batsch f.* 103. *Fr. Monogr.* i. *p.* 136. *Hym. Eur. p.* 105. *B. & Br. n.* 1738, 1929. *C. Illust. Pl.* 233. *Fr. Dan. t.* 2021.

VI.—Versiformes.

* *Pileus dirty-coloured, &c.*

191. A. ectypus Fr.—**Pileus** about 5–7.5 cent. (2–3 in.) broad, dingy or *light-yellow-honey colour*, then rufescent and when rotting almost brown, *fleshy*, somewhat thin, convex then rather plane or depressed, *streaked at the disc with innate fibrils* radiating from the centre, as if sprinkled with soot or squamulose; margin very thin, *striate*. **Stem** 5–10 cent. (2–4 in.) long, 6–10 mm. (3–5 lin.) thick, *hollow*, *elastic*, somewhat bulbous or equal, *fibrillose*, *becoming dingy light yellow*, soon olivaceous, becoming black at the base. **Gills** adnate, also decurrent with a rather delicate tooth, *distant*, connected by veins, *white*, soon becoming pale, then *spotted-rufous*, *somewhat mealy* with the plentiful spores.

The colour is both variable and changeable with age. Gregarious; sometimes many are joined in a cæspitose manner at the base. Odour at first pleasant, of anise, at length fœtid. Of the nature of *A. melleus* which it approaches in the gills being somewhat mealy with the spores as well as in colour, but without the trace of a veil.

In meadows, damp places. Mossburnford, Jedburgh, &c. Dec. Clitocybe.

Spores ovoid-pruniform, 9 mk. *Q.* Name—ἔκτυπος, worked in relief. Probably from the appearance of the markings. *Fr. Monogr.* i. *p.* 140. *Hym. Eur. p.* 107. *Icon. t.* 59. *f.* 1. *Berk. Out. p.* 112. *C. Hbk. n.* 106. *Illust. Pl.* 126. *S. Mycol. Scot. n.* 107.

192. A. bellus Pers.—**Pileus** about 5 cent. (2 in.) broad, *dark yellow*, sometimes rufescent, *sprinkled with darker squamules*, at length becoming pale, somewhat fleshy, pliant, convex then expanded, depressed in the centre, at length undulato-repand at the margin. **Stem** about 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed* at length hollow, equal, *tough*, but fibrous, and externally *rivulose with the fibrils, becoming yellow*. **Gills** *adnate*, at length decurrent with a tooth, very broad, *distant*, connected by veins, sometimes branched, paler than the pileus, *becoming yellow*, at length rufescent.

Somewhat cæspitose. Almost intermediate between *A. ectypus* and *A. laccatus;* odour when old almost that of the former, but otherwise nearer to the latter, and almost equally various in stature.

In fir plantations. Uncommon. Sept.

Gills incarnato-ferruginous, so far differing from Fries. It is at once distinguished from *A. laccatus* by its fœtid smell. *M. J. B.* Name—*bellus*, of beauty. Pretty. *Pers. Syn. p.* 452. *Fr. Monogr.* i. *p.* 140. *Hym. Eur. p.* 107. *Berk. Out. p.* 113, not Gonn. & Rab. *C. Hbk. n.* 107. *Illust. Pl.* 183. *S. Mycol. Scot. n.* 108.

*** Pileus bright, &c.*

193. A. laccatus[1] Scop.—**Pileus** about 2.5 cent. (1 in.) broad, thin, *almost membranaceous*, convex, at length rather plane, more or less umbilicato-depressed, dry, but remarkably *hygrophanous*, becoming pale in drying, and the cuticle *separating into mealy squamules* or somewhat silky, sometimes undulato-crisped and variously irregularly shaped. **Stem** about 7.5 cent. (3 in.) long, 4 mm. (2 lin.) and more thick, *tough*, wholly fibrous, *stuffed*, equal, often flexuous, or twisted, *fibrillose*, of the same colour as the pileus, white villous at the base. **Gills** adnate with a decurrent tooth, commonly distinct, very broad, distant, plane, flesh-colour or violaceous, at length white-mealy.

There are two primary types of colour: one *rufous-flesh* when moist, pileus ochraceous when dry; the other dark *violaceous*, pileus becoming hoary when dry. Besides that the colours are both variable and changeable, its stature is

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[1] The Rev. M. J. Berkeley proposes a new genus, *Laccaria*, of which this species is the type. As there are other subgenera, *e.g.*, *Inocybe*, which may ultimately rank as genera, it is better perhaps in the meantime to retain *A. laccatus* and its allies under *Clitocybe*.

Clitocybe. so various that it is possible to gather individual specimens 10–12.5 cent. (4–5 in.) or (in sandy paths) 6–8 mm. (3–4 lin.) high; these are at the same time very irregularly formed, excentric, &c. The following varieties in colour are more constant: a) *rufous-flesh*, pileus when dry somewhat ochraceous. A. farinaceus *Huds. Bolt. t.* 64. *Sow. t.* 208. *Fl. Dan.* t. 1249. A. rosellus *Batsch f.* 99; b) *yellow*, gills flesh-colour. *Buxb. C.* iv. *t.* 30, *f.* 1; c) pileus *yellow-violaceous*, ochraceous when dry, gills violaceous. A. impolitus *Schum.*; d) dark *violaceous*, pileus becoming hoary when dry. A. amethystinus *Bott. t.* 63. *Sow. t.* 187.

In woods, &c. Extremely common. June–Dec.

Spores globose, *M. J. B.*; echinulate, 9–10 mk. *K.*; rough, 8–10 mk. *B.*; 9 mk. *W. G. S.* A most provoking Agaric. Name—*lac*, a resinous substance, produced on trees in the East by the lac insect, used in dyeing. From the peculiar red of the pileus resembling that of gum-lac. *Scop. p.* 444. *Fr. Monogr.* i. *p.* 141. *Hym. Eur. p.* 108. *Berk. Out. p.* 113. *t.* 5. *f.* 3. *C. Hbk. n.* 108. *Illust. Pl.* 139. *S. Mycol. Scot. n.* 109. *Grev. t.* 249. *Hussey* i. *t.* 47. *Schæff. t.* 13. *Bull. t.* 570. *f.* 1. *Krombh. t.* 43. *f.* 17–20. *Batt. t.* 18. *G—I.* A. tortilis *Bolt. t.* 41. *f. A* is perhaps only a very irregular form.

194. A. Sadleri B. & Br.—**Pileus** 5–6 cent. (2–2½ in.) broad, light yellow, centre tawny, plano-depressed or umbilicate, at first slightly silky, at length becoming smooth towards the centre. **Stem** 7.5–10 cent. (3–4 in.) high, about ⅙ in. thick except at the base where it is thickened, yellow, with tawny fibrils, becoming smooth. **Gills** decurrent, thin, very crowded, lemon-yellow, quite entire at the margin.

Cæspitose; strong-smelling. The taste is intensely acrid, like that of *A. fascicularis*. Probably of exotic origin.

On an oak tub in Conservatory. Edinburgh, 1877. Jan.–Oct.

Name—after John Sadler. *B. & Br. n.* 1734 *bis*. *Trans. Bot. Soc. Ed.* xiii. *p.* 216. *S. Mycol. Scot. n.* 110. *C. Illust. Pl.* 127.

Collybia. *Subgenus VI.* **COLLYBIA** (κόλλυβος, a small coin). Fr. Syst. Myc. i. p. 129. Stem fistulose, *cartilaginous* or stuffed with a pith, and coated with a cartilaginous cuticle, rooting. Pileus slightly fleshy, *neither sulcato-plicate nor wrinkled, the margin at first involute.* Gills (membranaceous, soft) free or only obtusely adnexed behind. *Epiphytal on wood, leaves, &c., nay on fungi, but often rooted in the ground, not shrivelling or drying up.*

The Marasmii are distinguished from the Collybiæ proper by *the structure of their gills, their somewhat coriaceous substance, their somewhat persistent tenacity of life, whereby they possess the quality of reviving after being dried up.* *Fr. Hym. Eur. p.* 109.

The species are in general well marked and easily recognised.

They grow more slowly and last longer than other Agarics. The colour in most of them is variable. *A. esculentus* is perhaps the only edible species. Collybia.

Series A. *Gills white or brightly coloured, and not cinereous.* Flesh white.

I. Striæpedes (striate-stemmed). Stem stout, hollow or stuffed with a somewhat separate spongy pith, sulcate or fibrilloso-striate.

* *Gills broad, somewhat distant.*
** *Gills crowded, narrow.*

II. Vestipedes (clothed-stemmed). Stem thin, equal, fistulose or with a pith, even, *velvety, floccose*, or *pruinose.*

* *Gills broad, somewhat distant.*
** *Gills very narrow, very crowded.*

III. Lævipedes (even-stemmed). Stem thin, equal, fistulose, naked, smooth (leaving out of view the base) and not conspicuously striate (but under a lens the stem of *A. dryophilus*, &c., is slightly striate).

* *Gills broad, lax, commonly more or less distant.*
** *Gills narrow, crowded.*

VII. Agaricus (*Collybia*) *butyraceus.* One-fourth natural size.

Series B. *Gills becoming cinereous.* Hygrophanus.

IV. Tephrophanæ (ill-favoured). Colour fuscous, becoming cinereous. Allied to the last group of the Tricholomata and the Clitocybæ, but distinguished by the cartilaginous stem.

* *Gills crowded, somewhat narrow.*
** *Gills very broad, more or less distant.*

SERIES A. GILLS WHITE OR BRIGHTLY COLOURED, &c.

I.—STRIÆPEDES.

* *Gills broad, somewhat distant.*

195. A. radicatus Rehl.—**Pileus** about 7.5–10 cent. (3–4 in.) broad, fuscous-olivaceous, &c., fleshy, thin, convex then flattened, gibbous rather than umbonate, often irregular, *glutinous*, and *radiato-rugose;* flesh soft, elastic, white. **Stem** 10–15 cent. (4–6 in.) and more long, 6–8 mm. (3–4 lin.) thick, tense and straight, rigid, stuffed, equally attenuated from the root to the apex (equal only when more slender), rather smooth, at length striato-sulcate (the texture of the cartilaginous cuticle often twisted), commonly paler than the pileus, *ending at the base in a tail-like fusiform root* which is often a span long. **Gills** attenuated behind and adfixed, often with a decurrent tooth, at length somewhat separating, ventricose, distant, rather thick, shining white.

Collybia.

The colour of the pileus varies fuscous-olivaceous, fuliginous, reddish-brown, fuscous-ochraceous, becoming green. It has occurred also wholly shining white. Somewhat membranaceous when smaller. The radiating wrinkles become more manifest the larger it is. Solitary, inodorous, firm, the root fixed by subterranean rootlets.

On stumps, &c., covered with soil. Common. June–Nov.

Spores 11×17 mk. *W.G.S.*; 11×9 mk. *W.P.*; 16–17×10–11 mk. *B.* Name—*radix*, a root. Rooted. *Relhan. Fr. Monogr.* i. *p.* 146. *Hym. Eur. p.* 109. *Berk. Out.* p. 114. *t.* 5. *f.* 4. *C. Hbk. n.* 137. *Illust. Pl.* 140. *S. Mycol. Scot. n.* 111. *Sow. t.* 48. *Grev. t.* 217. *Hussey* i. *t.* 15. *Krombh. t.* 72. *f.* 26, 27. *Paul. t.* 97. *bis f.* 3, 4.

196. A. longipes Bull.—**Pileus** fleshy, thin, conico-expanded, umbonate, *dry*, *somewhat velvety-villous*. **Stem** stuffed, tall, attenuated upwards, villous, at length sulcate, with a long fusiform root. **Gills** rounded, somewhat distant, white.

Formerly regarded as a variety of *A. radicatus*.

On stumps, &c. Uncommon. Autumn.

Pileus and stem often tinted with yellow. *M. J. B.* Spores sphæroid, 12 mk. *Q.* Name—*longus*, long; *pes*, a foot. Long-stemmed. *Bull. t.* 232. *Fr. Hym. Eur. p.* 110. *Berk. Out. p.* 114. *C. Hbk. n.* 138. *Illust. Pl.* 201. *Hussey* i. *t.* 80. *Larb. t.* 16. *f.* 1. *Krombh. t.* 1. *f.* 31 a smaller form.

197. A. platyphyllus Fr.—**Pileus** 7.5–10 cent. (3–4 in.) broad, fuscous and cinereous then whitish, fleshy-membranaceous, *thin*, *fragile*, soon flattened, obtuse, watery when moist, *streaked with fibrils*. **Stem** 7.5–10 cent. (3–4 in.) long, 12 mm. (½ in.) thick, stuffed, soft, equal, fibrilloso-striate, otherwise smooth, naked or obsoletely pruinate at the apex, whitish, shortly and bluntly rooted at the base. **Gills** obliquely truncate behind, *slightly* adnexed, 12 mm. (½ in.) and more *broad*, *distant*, soft, white.

Odour not remarkable. It inclines towards the *Tricholomata* in the *somewhat membranaceous cuticle of the soft stem.*

In woods, among leaves, &c. Rare. Oct.

Spores 13×19 mk. *W.G.S.* Name—πλατύς, broad; φύλλον, a leaf. Broad-gilled. *Fr. Monogr.* i. *p.* 147. *Hym. Eur. p.* 110. *Berk. Out. p.* 114. *B. & Br. n.* 263, 323. *C. Hbk. n.* 139. *Illust. Pl.* 128. *S. Mycol. Scot. Supp. Scot. Nat. vol.* vi. *p.* 214. *Paul. t.* 97. *f.* 1, 2? *Buxb. C.* iv. *t.* 18. A. grammocephalus *Bull t.* 594.—*Clusii Pern. gen.* viii. *Sterb. t.* 16. *H.*

* **A. repens** Fr.—Pileus more fleshy, depressed; stem hollow, compressed, pruinate at the apex, with a creeping string-like mycelium.

It is most distinguished by its white, villous, anastomosing, very much branched mycelium which creeps a long distance in a rooting string-like manner. The so-called roots are quite heterogeneous from the stem, not a pro-

longation of the stem itself. *Rhizomorpha xylostroma Ach. in Vet. Ac.* Collybia.
Handl. 1814, *t.* 9. *f.* 7 represents the very singular mycelium. Name—*repens*, creeping. *Fr. Monogr.* i. *p.* 148. *Hym. Eur. p.* 110. *Icon. t.* 61. *Berk. Out. p.* 114.

198. A. semitalis Fr.—**Pileus** 2.5–10 cent. (1–4 in.) broad, when fresh moist, pitch-black, fuliginous or smoky-livid, *hygrophanous*, when dry sometimes becoming pallid cinereous-yellow or isabelline, sometimes grey, fleshy-cartilaginous, thin, convex then plane, *obtuse*, even, *smooth;* the margin at first inflexed and smooth, then spreading and slightly pellucid-striate; flesh thin, scissile, moist when in vigour, white when dry. **Stem** 5–10 cent. (2–4 in.) long, 6–8 mm. (3–4 lin.) thick, at first stuffed, then somewhat hollow, *tough*, *elastic*, attenuated from the somewhat bulbous and often bluntly-rooting base, *fibrilloso-striate*, slightly fuscous- or cinereous-white, naked at the apex. **Gills** obtuse (attenuated or rounded) behind, *adfixed in the form of a ring* with a small tooth which is decurrent on the stem, *somewhat distant*, broad, distinct, white then becoming cinereous, *spotted black when touched*, and at length becoming black, but the spores white.

Sometimes cæspitose. Its true affinity and place are very doubtful; from its habit it belongs to this group, but it grows on the ground, and the *cuticle of the stem, which is fibrous internally, is membranaceous.* It is wholly somewhat cartilaginous, however, somewhat tough, most variable in its dimensions. B. Stem sometimes curt, 2.5 cent. (1 in.) long, 4 mm. (2 lin.) thick, equal, but curved-ascending, wholly solid; pileus plano-depressed, irregular, less hygrophanous. C. Stem solid, bulbous (the bulb as much as 2.5 cent. (1 in.) thick), &c. The gills, however, always present marks by which it may be safely distinguished from all others.

By waysides after much rain. Coed Coch. Oct.–Nov.

Name—*semitalis*, pertaining to footpaths or byways. *Fr. Monogr.* i. *p.* 146. *Hym. Eur. p.* 110. *Icon. t.* 62. *B. & Br. n.* 1739. *C. Illust. Pl.* 292. *Buxb. C.* iv. *t.* 14.

199. A. fusipes Bull.—**Pileus** 4 cent. (1½ in.) broad, *rufescent-reddish-brown*, becoming pale and also dingy tan, fleshy, convex then flattened, umbonate (the umbo at length vanishing), even, smooth, dry, here and there broken up in cracks when dry. **Stem** 7.5 cent. (3 in.) and more long, commonly 12 mm. (½ in.) but here and there as much as 2.5 cent. (1 in.) broad, *fibrous-stuffed then hollow*, remarkably cartilaginous externally, *swollen*, *ventricose in the middle*, *attenuated at both ends*, often twisted, longitudinally *striato-sulcate*, rufous or rufous-brown, *rooted in a fusiform manner at the base.* **Gills** *annulato-adnexed*, soon separating, free, broad, distant, firm, connected by veins, crisped, white then becoming somewhat of the same colour as the pileus, often spotted.

103044

Collybia.

On account of the rigid cuticle the stem is often split into cracks forming revolute flaps. Commonly densely cæspitose, very various in stature and size, but always firm, tough.

On old stumps, &c. Common. July–Nov.

Spores 6×3 mk. *W.G.S.*; 4–5×2–4 mk. *B.* The taste is pleasant, so it may perhaps be edible. Name—*fusus*, a spindle; *pes*, a foot. Spindle-stemmed. *Bull. t.* 106, 516. *f.* 2. *Fr. Monogr.* i. *p.* 149. *Hym. Eur. p.* 111. *Berk. Out. p.* 115. *t.* 5. *f.* 5. *C. Hbk. n.* 140. *Illust. Pl.* 141. *S. Mycol. Scot. n.* 112. *Sow. t.* 129. *Price f.* 85. *Hussey* ii. *t.* 48. *Krombh. t.* 42. *f.* 9-11. *Fl. Dan. t.* 1607. *Hoffm. Ic. anal. t.* 4. A. crassipes *Schæff. t.* 87, 88.

* **A. œdematopus** Schæff. — Pileus rufous-date-brown, conical then becoming plane, *pulverulent;* stem stout *ventricose*, fibrillose, *pulverulent;* gills pallid.

Somewhat cæspitose. On trunks. Glamis, 1883. Name—οἴδημα, a swelling; πούς, a foot. With swollen stem. *Schæff. t.* 259. *Fr. Hym. Eur. p.* 112. *B. & Br. n.* 1995. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 21. A. fusiformis *Bull. t.* 76. A. bulbosus *Pall. Ross* i. *t.* 9. *f.* 2.

** *Gills crowded, narrow.*

200. A. maculatus A. & S.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, *whitish*, here and there guttate with paler spots and commonly *spotted-rufescent*, fleshy, commonly very *compact*, convexo-plane, in no wise lax, obtuse, repand, even, smooth; margin thin, at first involute, somewhat naked. **Stem** 7.5–10 cent. (3–4 in.) long, 1–2.5 cent. (½–1 in.) thick, *hard*, commonly *stuffed*, sometimes however hollow, externally cartilaginous, *somewhat ventricose* (flexuous when more slender), *striate*, white, here and there spotted-rufous, base attenuated rooted and blunt. **Gills** *emarginato-free, very crowded, linear*, scarcely ever 4 mm. (2 lin.) broad, becoming pale-white.

The colour of the pileus is at first white, then spotted rubiginous, and at length occasionally wholly rufescent. Slightly acid.

In woods, chiefly pine and beech. Common. July–Nov.

Spores 6 mk. *W.G.S.*; 6×5 mk. *W.P.*; 4–6 mk. *B.* Name—*macula*, a spot. Spotted. *Alb. & Schw. p.* 186. *Fr. Monogr.* i. *p.* 150. *Hym. Eur. p.* 112. *Berk. Out. p.* 115. *C. Hbk. n.* 141. *Illust. Pl.* 142. *S. Mycol. Scot. n.* 113. *Hussey* ii. *t.* 60. A. carnosus *Sow. t.* 246. Var. immaculatus *C. Illust. Pl.* 221?

201. A. distortus Fr.—**Pileus** almost 7.5 cent. (3 in.) broad, *bay-brown*, becoming pale but not hygrophanous, *fleshy*, *thin*, convex then expanded, umbonate, very *lax*, even, smooth. **Stem** 7.5 cent. (3 in.) long, scarcely 12 mm. (½ in.) thick, and wholly attenuated upwards from the tomentose base, *fragile, externally cartilaginous, internally spongy*, soon hollow, *contorted, sulcate*,

pallid. **Gills** slightly adnexed, *crowded*, *somewhat linear*, scarcely serrulated, at length *spotted-rubiginous*. Collybia.

Gregarious. Intermediate between *A. fusipes* and *A. butyraceus*. It is nearest to the former, but most like the latter. Very distinct in the broad, lax pileus, in the thinner, twisted, pallid stem, and in the spotted gills.

On roots of trees. Bowood, 1869, &c. Oct.

Spores sphæroid-ellipsoid, 8–10 × 4–5 mk. *K.* Name—*distorqueo*, to twist. From the twisted stem. *Fr. Monogr.* i. *p.* 150. *Hym. Eur. p.* 113. *Icon. t.* 63. *f.* 1. *B. & Br. n.* 1205. *C. Illust. Pl.* 282.

202. A. butyraceus Bull.—**Pileus** 5–7.5 cent. (2–3 in.) broad, normally *rufous-brown*, but becoming pale, fleshy, convex then expanded, more or less *umbonate*, dry, *even*, smooth; flesh buttery-soft, somewhat hygrophanous, flesh-colour then white. **Stem** 5–7.5 cent. (2–3 in.) long, *conico-attenuated* from the thickened white-tomentose base, hence much thinner at the apex, 4–6 mm. (2–3 lin.) only, but at the base 1–2.5 cent. (½–1 in.) thick, externally covered over with a *rigid cartilaginous cuticle*, *internally* stuffed with soft *spongy pith*, or hollow only when old, *striate*, *rufous*, commonly smooth, but varying with white deciduous squamules, and occasionally wholly pulverulento-villous. **Gills** slightly adnexed, *somewhat free*, thin, *crowded*, *crenulate*, white, *never spotted-rufous*.

The colour of the pileus is both changeable and variable; also fuscous-livid, becoming pale-ochraceous, or becoming wholly pale-white. Solitary or growing in troops.

In woods, chiefly fir. Common. Jan.-Dec.

When quite young livid-brown, the margin subrufescent, but a portion below the umbo soon grows pale, so that the pileus appears of four colours. Easily distinguished by its greasy-looking pileus and cartilaginous stem. *M. J. B.* Umbo persistently dark. On making a section, a coloured line will be observed extending from the base of the stem (cuticle rufous) to the margin of the pileus. Spores 6–10 × 3–5 mk. *B.* Name—*butyrum*, butter. Buttery to the touch. *Bull. t.* 572. *Fr. Monogr.* i. *p.* 151. *Hym. Eur. p.* 113. *Berk. Eng. Fl.* v. *p.* 46. *Out. p.* 115. *C. Hbk. n.* 142. *Illust. Pl.* 143. *S. Mycol. Scot. n.* 114. *Buxb. C.* iv. *t.* 5. *f.* 1. *Batt. t.* 16. *c.*—A. leiopus *Pers. Ic. pict.* 2. *f.* 1–3.

203. A. xylophilus Weinm.—**Pileus** as much as 7.5 cent. (3 in.) broad, (10 cent., 4 in., when flattened), whitish or becoming fuscous-tan at the middle, slightly fleshy, wide, spreading, *campanulate*, *lax*, commonly obtuse, sometimes furnished with a minute umbo; at length rimosely split towards the margin and more expanded, broadly gibbous, smooth, moist; flesh everywhere very thin, fragile, becoming watery-fuscous. **Stem** 5–7.5 cent. (2–3 in.) long, 6 mm. (3 lin.) thick, hollow, equal, but often flexuous, fibrilloso-striate, whitish, quite destitute of a veil, internally becoming

Collybia

fuscous. **Gills** adnate, often decurrent with a small tooth, very narrow (only 2 mm. (1 lin.) broad), very crowded, entire.

Cæspitose. As regards the gills, it is allied to *A. confluens.*

About old stumps. Black Park, Langley, 1882. Sept.

Name—ξύλον, timber; φίλος, loving. *Weinm. in Linn.* x. *p.* 54. *Fr. Monogr.* ii. *p.* 289. *Hym. Eur. p.* 114. *Icon. t.* 63. *f.* 2. *C. Illust. Pl.* 202.

II.—Vestipedes.

* *Gills broad, somewhat distant.*

204. A. velutipes Curt.—**Pileus** 2.5–10 cent. (1–4 in.) broad in the same cluster, *tawny*, sometimes paler at the margin, moderately fleshy at the disc, but thin at the circumference, convex then soon becoming plane, often excentric, irregular and repand, smooth, *viscous;* margin spreading, and at length slightly striate; flesh watery, soft, slightly tawny-hyaline. **Stem** 2.5–7.5 cent. (1–3 in.) long, 2–8 mm. (1–4 lin.) thick, tough, externally cartilaginous, *umber then becoming black, densely velvety-villous*, commonly ascending or twisted, commonly equal, even, internally fibrous-stuffed and hollow. **Gills** broader and rounded behind, slightly adnexed, so as at first sight to appear free, *somewhat distant*, very unequal, *becoming pallid yellow* or tawny.

Commonly cæspitose, varying much in stature, widely removed from all the rest.

On trunks, stumps, ulex, &c. Common. Sept.–April.

Stem often slightly flattened, and frequently a little broader at the apex. Spores ellipsoid, 8–10×4–5 mk. *K.;* 7 mk. *W.G.S.;* 6×4 mk. *B.* Name—*vellus*, fleece; *pes*, a foot (Low Lat. *velluetum*). Velvety-stemmed. *Curt. Lond.* 4. *t.* 70. *Fr. Monogr.* i. *p.* 154. *Hym. Eur. p.* 115. *Berk. Out. p.* 116. *C. Hók. n.* 143. *Illust. Pl.* 184 *A. S. Mycol. Scot. n.* 115. *Bolt. t.* 135. *Sow. t.* 384. *f.* 3. *Hussey* i. *t.* 56. *Krombh. t.* 44. *f.* 6–9. A. austriacus *Tratt. Austr. t.* 7. *Batsch f.* 112 (var.) *Batt. t.* 22. *C.*

205. A. laxipes Fr.—**Pileus** small, milk-white, slightly fleshy, convexo-plane, obtuse, smooth, *moist.* **Stem** *stuffed, rufous-velvety*, lax, very long, stiff. **Gills** separating-free, distant, broad, ventricose, milk-white.

A very remarkable species.

On wood.

Name—*laxus*, lax; *pes*, a foot. Lax-stemmed. *Fr. Hym. Eur. p.* 115. *Quél. Jur.* ii. *p.* 330. *t.* 2. *f.* 2. *Batt. t.* 9. *f.* 5. *C. Illust. Pl.* 184. *B.*

206. A. mimicus Smith.—**Pileus** smooth, with a thin separable cuticle. **Stem** fibrillose at the base, fibrilloso-striate in the middle, naked or slightly pruinose at the apex. **Gills** *very broad*, somewhat distant, thin, white. Collybia.

Odour and taste strong like fish. Agreeing in some points with *A. cucumis*, but differing very materially in others.

Among shavings.

Pileus pale brownish-yellow. Spores elliptical. Name—*mimicus*, mimic. From its resemblance to *A. cucumis*. *Worth. Smith in litt. C. Illust. Pl.* 129.

207. A. vertirugis Cke.—**Pileus** not exceeding 2.5 cent. (1 in.) broad, dull brown or cinereous, campanulate, at length convexo-plane, radiato-wrinkled, tough, somewhat membranaceous, minutely pulverulent. **Stem** 5–6 cent. (2–2½ in.) long, 1–2 mm. (½–1 lin.) thick, fistulose, sometimes compressed, rufous, minutely velvety, strigose at the base. **Gills** truly adnate, ascending or horizonal, moderately distant, connected by veins, white, with a yellowish tinge.

On dead fern-roots, stumps, &c. Uncommon. Oct.

Name—*vertex*, top; *ruga*, a wrinkle. *Berk.* (A. undatus) *Eng. Fl.* v. *p.* 51. *Out. p.* 117. *C. Hbk. n.* 147. *Illust. Pl.* 149. *Fr. Hym. Eur. p.* 116.

208. A. stipitarius Fr.—**Pileus** slightly fleshy, convexo-plane, *umbilicate, velvety-squamulose*, or fuscous-fibrillose. **Stem** stuffed then fistulose, tough, *date-brown, shaggy-fibrillose*. **Gills** separating-free, ventricose, somewhat distant, white.

On grass, thatch, twigs, &c. Frequent. Sept.–Nov.

Pileus 8–10 mm. (4–5 lin.) broad. Stem 2.5–5 cent. (1–2 in.) long, not 2 mm. (1 lin.) thick. Its habit is that of *Marasmius perforans*. Name—*stipes*, a stem. Growing on stems. *Fr. Hym. Eur. p.* 116. *Berk. Out. p.* 116. *t.* 5. *f.* 6. *S. Mycol. Scot. n.* 116. *Hussey* i. *t.* 68. *C. Illust. Pl.* 149. *b.* A. scabellus *Alb. & Schw. t.* 9. *f.* 6, not S. M. A. caulicinalis *Bull. t.* 522. *f.* 2 (a remarkable variety, not With., Sow., Sw., &c.) *Fr. Monogr.* i. *p.* 158. *C. Hbk. n.* 144.

** *Gills very narrow, very crowded.*

209. A. hariolorum D.C.—**Pileus** as much as 5 cent. (2 in.) broad, *whitish*, somewhat membranaceous, pliant, *campanulato-convex* then flattened, obtuse, rather depressed, even, smooth, somewhat striate at the margin. **Stem** 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, cartilaginous, fistulose, somewhat equal, somewhat compressed, for the most part *covered over with whitish somewhat woolly villous down*, naked and pallid only at the very apex, otherwise *fuscous-rufescent*, internally villous at the sides.

Collybia. **Gills** at first slightly adnexed, soon *free*, *somewhat crowded*, linear, whitish.

Gregarious, somewhat cæspitose, strong-smelling. Like *Marasmius erythropus*, but a true Agaric, nearest to *A. confluens*.

In woods. Coed Coch.

Spores 6–7 × 3–3½ mk. *B.* Name—*hariolus*, a soothsayer. Another name of the species is *A. sagarum*, from *saga*, a witch. The names seem to indicate some superstitious idea attached in France to the Agaric, or some superstitious use made of it. *Dec. Fl. fr.* ii. *p.* 182. *Bull. t.* 585. *f.* 2. *Fr. Monogr.* i. *p.* 155. *Hym. Eur. p.* 117. *B. & Br. n.* 1740. *C. Illust. Pl.* 150. A. sagarum *Secr. n.* 735.

210. A. confluens Pers.—**Pileus** 2.5 cent. (1 in.) and more broad, hygrophanous, rufescent when moist, wholly white when dry, *slightly fleshy*, but *tough*, *flaccid*, convex then flattened, at first obtuse, at length however (contrary to rule) broadly and obtusely umbonate, slightly striate at the margin when moist, even when dry. **Stem** 7.5–12.5 cent. (3–5 in.) long, 2 mm. (1 lin.) and more thick, but widened in lying flat against others and occasionally truly united in a bundle, and dilated chiefly at the apex, *fistulose*, remarkably cartilaginous, *rufous*, *everywhere pulverulent with dense white villous down*. **Gills** *free*, at length remote from the stem, *very crowded*, *very narrow*, linear, *flesh-colour then whitish*.

Growing in troops, many individual specimens becoming confluent in rows by the expanded floccose mycelium, but easily separating each from the other, not truly cæspitose. In external appearance various *Marasmii* are very like it. *A. hariolorum*, *A. ingratus*, and *A. acervatus* are allied to it.

In woods. Frequent. June–Oct.

Name—*confluo*, to flow together. From the cohering stems. *Pers. Syn. p.* 368. *Ic. pict. t.* 5. *f.* 1. *Fr. Monogr. p.* 156. *Hym. Eur. p.* 117. *Berk. Out. p.* 116. *C. Hbk. n.* 145. *Illust. Pl.* 150. *S. Mycol. Scot. n.* 117. *Saund. & Sm. t.* 30. *Fl. Bat. t.* 1083. *Buxb. C.* iv. *t.* 20.—*Batsch f.* 104 var.

211. A. ingratus Schum.—**Pileus** 4 cent. (1½ in.) broad, dingy *fuscous-tan*, slightly fleshy, pliant, globoso-campanulate then expanded, *umbonate*, even, smooth. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick or in becoming compressed still broader, cartilaginous, *fistulose*, flexuous, *twined*, *becoming fuscous*, not rooted at the base, at length umber, *white-mealy above*, internally villous at the sides. **Gills** *free*, very *crowded* and narrow, but slightly ventricose, quite entire, pallid.

Cæspitose, *tough*, with a mouldy odour. A smaller form occurs: Pileus 2.5 cent. (1 in.) broad, convex then plane. Stem 4 cent. (1½ in.) long, only 2 mm. (1 lin.) thick, pulverulent, attenuated and smooth downwards, externally and internally of the same colour as the pileus, *not rufescent*.

In woods. Uncommon. Aug. Collybia.

Differs principally from *A. confluens* in the gills not leaving a free space round the top of the stem. *M. J. B.* Name—*ingratus*, unpleasant. From the odour. *Schum. p.* 304. *Fr. Monogr.* i. *p.* 156. *Hym. Eur. p.* 118. *Icon. t.* 64. *f.* 1. *Berk. Out. p.* 116. var. pileus convex, obtuse; stem villoso-pulverulent. *C. Hbk. n.* 146. *Illust. Pl.* 283. *S. Mycol. Scot. n.* 118.

212. A. conigenus Pers.—**Pileus** about 1–2.5 cent. (½–1 in.) broad, brick-livid or pale yellowish-livid then becoming pale, slightly fleshy, slightly firm, convex then rather plane, *somewhat umbonate*, unequal, often angular, also depressed, smooth, slightly striate at the margin when moist. **Stem** sometimes 2.5 cent. (1 in.) long, sometimes elongated to 5–7.5 cent. (2–3 in.), *delicately fistulose*, cartilaginous, tough, wholly *filiform*, of the same colour as the pileus, *at the first white-pulverulent* throughout, when larger at length somewhat naked, rooted at the strigose tail-shaped base. **Gills** at first slightly adnexed, soon separating, *free*, *very crowded*, plane, linear, quaternate, white, becoming pale.

For the most part gregarious. Variable in stature and form. There is a variety at the first *pale* nay *white*, smaller. *Alb. & Schw.* Var. *porcina* becoming dingy yellow, pileus slightly striate, stem elongated, filiform.

On fir-cones. Common. Sept.–Dec.

Spores sphæroid-ellipsoid or subellipsoid, 3–4 × 2 mk. *K.*; 3 × 4 mk. *W.G.S.*; 4–6 × 2–3 mk. *B.* Name—*conus*, a cone; *gigno*, to bear. Growing on cones. *Pers. Syn. p.* 388. *Fr. Monogr.* i. *p.* 158. *Hym. Eur. p.* 118. *Icon. t.* 67. *f.* 3. *Berk. Out. p.* 117. *C. Hbk. n.* 148. *Illust. Pl.* 130. *S. Mycol. Scot. n.* 119. *Buxb. C.* i. *t.* 57. *f.* 2.

213. A. cirrhatus Schum.—**Pileus** from the size of a pin's head to 10–12 mm. (5–6 lin.) broad, white, opaque, slightly fleshy, conico-convex then plane, then at the middle *umbilicato-depressed* and rufescent often with a small central protuberance, *slightly silky*, at length very delicately and often concentrically rivulose. **Stem** 2.5–5 cent. (1–2 in.) long, *delicately fistulose*, *filiform*, flexuous, pallid, *white-pulverulent*, rooted with a *fibrillose twisted tail*. **Gills** adnate, at length however occasionally separating, *crowded*, *linear*, very narrow, very unequal, white.

It is often difficult to detect the interior tube of the stem. Very variable in size and stature, but always very small, *tough*. It never has a radical tuber. Growing in troops. Intimately related to *A. conigenus* and *A. tuberosus*, but widely distant from *A. ocellatus*, which is like it.

Among leaves, &c., and on blackened fungi. Common. Aug.–Nov.

Spores sphæroid-ellipsoid or ellipsoid, 4–2 × 3 mk. *K.*; 3–6 × 2–3 mk. *B.* Name—*cirrus*, a curl. From the root. *Schum. n.* 1773. *Fr. Monogr.* i. *p.*

Collybia. 159. *Hym. Eur. p.* 119. *Icon. t.* 68. *f.* 1. *Berk. Out. p.* 117. *C. Hbk. n.* 149. *Illust. Pl.* 144. *B. S. Mycol. Scot. n.* 120.

214. A. tuberosus Bull.—**Pileus** 4–8 mm. (2–4 lin.) broad, white, slightly fleshy, convex then plane, *umbonate* but not umbilicato-depressed, slightly silky then *becoming smooth*, even, opaque. **Stem** 12 mm. (½ in.) or more long, 1 m. (½ lin.) thick, *somewhat fistulose*, commonly ascending, equal, *obsoletely pulverulent*, white, rarely rufescent, *the base wholly smooth*, attached to a tuber. **Gills** *adnate*, crowded, thin, unequal, slightly ventricose, white.

Very small, but tough, slightly firm, gregarious. Always growing on a *tuber*, which is *solid, smooth, sclerotioid, becoming yellow.* The stem is often elongated, sometimes *proliferous.* It is often difficult to detect the internal tube of the stem from its thinness.

On dead Agarics, and *Polyporus squamosus.* Common. Aug.–Nov.

The summer form has no tuberous root; later in the year the tuber is formed, which produces its pileus the following season. *B. & Br.* Spores 3×2 mk. *W.G.S.* Name—*tuber*, a tuber. Tuberous-rooted. *Bull. t.* 256. *Fr. Monogr. p.* 160. *Hym. Eur. p.* 119. *Berk. Out. p.* 117. *B. & Br. n.* 1205*. *C. Hbk. n.* 150. *Illust. Pl.* 144. a. *S. Mycol. Scot. n.* 121. *Grev. t.* 23. *Fl. Dan. t.* 1613. *Quél. t.* 3. *f.* 5. *Batsch f.* 93.

215. A. racemosus Pers.—**Pileus** somewhat membranaceous, convex, *papillate, somewhat tomentose-grey.* **Stem** somewhat stuffed, *racemose with simple* (unbranched) *small-headed hairs, the sclerotioid base black.* **Gills** adnate, crowded, white.

Of the same stature as *A. tuberosus* from which it differs in *the sclerotioid tuber being larger, irregularly shaped, and black,* in the stem being somewhat stuffed, *in a wholly peculiar manner racemose with simple, equally long, small-headed hairs*, 2.5 cent. (1 in.), and not pruinose, and in the pileus being thinner, *papillato-convex*, slightly grey-villous and of a *grey colour* in all its parts except the gills which are white. The small heads on the stem resemble *Stilbum.*

On the ground, and rotten fungi. Very rare. King's Cliffe.

It turns black in drying. *M. J.B.* Name—*racemus*, a cluster. *Pers. Disp. t.* 3. *f.* 8. (*Nees. f.* 190). *Fr. Hym. Eur. p.* 119. *Monogr.* i. *p.* 160. *Berk. Out. p.* 118. *C. Hbk. n.* 151. *Sow. t.* 287. A. globulifer *Brond. Cr. Ag. t.* 6. *f.* 6, 7.

III.—Lævipedes.

** Gills broad, lax, commonly more or less distant.*

216. A. collinus Scop.—**Pileus** 2.5–5 cent. (1–2 in.) broad, becoming pale-fuscous or pale-tan, fleshy-membranaceous, *campanulate then expanded* and when flattened *umbonate*, smooth, *somewhat viscous* and slightly striate *when moist*, when dry even, shin-

ing; flesh thin white. **Stem** 7.5–10 cent. (3–4 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose, *somewhat fragile*, somewhat equal, or slightly attenuated upwards, even, *smooth, pallid-whitish*, pubescent at the base. **Gills** adnexed when young, then *free, somewhat distant, broad*, lax, quaternate, becoming pale-white. Collybia.

Commonly gregarious. Habit that of *Mycena*, but the margin is at first incurved.

On grassy slopes, beech-stumps. Uncommon. Oct.

Name—*collis*, a hill. From its habitat. *Scop. Carn. p.* 132. *Fr. Monogr.* i. *p.* 161. *Hym. Eur. p.* 119. *B. & Br. n.* 1206. *Seem. Journ. Bot.* iv. *p.* 347. *C. Hbk. n.* 153. *Illust. Pl.* 205. *Schæff. t.* 220. *Fl. Dan. t.* 1609. A. arundinaceus *Bull. t.* 403. *f.* 1.

217. A. ventricosus Bull.—**Pileus** tan or isabelline, slightly fleshy, campanulato-convex, umbonate, smooth. **Stem** fistulose, even, naked, *rufescent, ventricose at the base, rooted*. **Gills** arcuato-adfixed, ventricose, lax, somewhat crowded, undulated, rufescent.

Allied to *A. dryophilus*, but broader and more lax.—Var. *albus* Bull. *t.* 411. *f.* B.

In woods. Bathford, 1874, &c. Oct.

Name—*venter*, the belly. From the ventricose base. *Bull. t.* 411. *f.* 1, not Schum. *Fr. Hym. Eur. p.* 120. *B. & Br. n.* 1514, 1741. *C. Illust. Pl.* 145. A.

218. A. Stevensoni B. & Br.—**Pileus** 12 mm. (½ in.) broad and high, pallid yellow, *semiovate*, obtuse, *viscid*, here and there spotted by the viscous matter. **Stem** 4 cent. (1½ in.) long, thin, scarcely 2 mm. (1 lin.) thick, fibrillose, pulverulent upwards, composed of fibres, internally and externally slightly rufous, rooting. **Gills** adnate with a decurrent tooth, *broad*, distant, white.

Allied to *A. ventricosus*, but differing in its slender almost solid stem, viscid semiovate pileus, and very broad, adnate, somewhat ventricose, plane gills.

In old pasture. Glamis, 1874. Aug.

The root is remarkable, somewhat long and thread-like, going deep into the soil. Name—after Rev. John Stevenson. *B. & Br. n.* 1497. *S. Mycol. Scot. n.* 122. *C. Illust. Pl.* 145. *B.*

219. A. psathyroides Cke. Ivory-white.—**Pileus** 18 mm. (¾ in.) broad, nearly 2.5 cent. (1 in.) high, campanulate, obtuse, rather viscid, margin regular, even. **Stem** 7.5–10 cent. (3–4 in.) long, hollow, erect, slender, equal, rather tough. **Gills** adnate, with a decurrent tooth, very broad, triangular, rather distant, persistently white.

Spores elliptic, colourless, ·015 × ·007 mm. Allied to *A. Stevensoni*. Re-

Collybia.

sembling in habit some *Psathyra* or *Panæolus*, but the spores are absolutely colourless when fully mature.

On the ground. Epping Forest, 1880. Oct.

Name—*Psathyra-like*. *Cooke Grevillea, vol.* xi. *p.* 155. *Illust. Pl.* 266.

220. A. xanthopus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, tan then becoming pale, slightly fleshy, *campanulato-convex* then expanded, lax, umbonate, smooth, dry, margin at length spreading, slightly striate. **Stem** 7.5 cent. (3 in.) and more long, 4 mm. (2 lin.) and more thick, *tough*, fistulose, equal, even, smooth, *yellow-tawny, strigosely rooted at the base.* **Gills** *truncate behind*, at first adnexed, soon free, *crowded, very broad*, lax, whitish.

Allied to *A. dryophilus*, from the common form of which it may be safely distinguished by its umbo, by its broad lax gills, and by the base of the stem.

On stumps and among leaves. Uncommon. July.

Name—ξανθός, yellow; πούς, a foot. Yellow-stemmed. *Fr. Monogr.* i. *p.* 161. *Hym. Eur. p.* 120. *Berk. Out. p.* 118. *C. Hbk. n.* 154. *Illust. Pl.* 203. *S. Mycol. Scot. n.* 123. *Batsch f.* 209 (var. stem tawny).

221. A. nitellinus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, when moist *tawny* or brick-tawny, when dry somewhat tan, somewhat membranaceous, convexo-plane, obtuse, smooth, *polished*, but when more accurately examined *somewhat rugulose*, pellucido-striate when moist; flesh of the same colour. **Stem** 7.5 cent. (3 in.) long, 3 mm. (1½ lin.) thick, appearing cartilaginous from its rigidity and polished surface, but at length soft, and readily splitting into fibrils, stuffed then fistulose, equal, flexuous, somewhat rooted, smooth, *slightly striate, ferruginous-tawny*, yellow when dry, often white villous at the base, more rarely obsoletely pruinose at the apex. **Gills** adnate, *very obtuse behind* and equally attenuated in front, *somewhat crowded*, narrow, *whitish.*

There is a smaller variety with the pileus 12 mm. (½ in.) broad, umbonate, and the stem scarcely 2.5 cent. (1 in.) long. Solitary or gregarious, inodorous. From its having the habit of *A. laccatus*, and the stem internally fibrous, it approaches *Clitocybæ*, to which it was formerly referred, but from its polished shining stem it is better referred to *Collybia*.

By roads in wood. Shrewsbury.

Name—*nitella*, a squirrel. From its colour. *Fr. Monogr.* i. *p.* 142. *Hym. Eur. p.* 120. *Icon. t.* 65. *f.* 1, 2. *B. & Br. n.* 1742. *C. Illust. Pl.* 146. Var. with crowded gills.

222. A. succineus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *rufous* or brown-fuscous becoming pale, fleshy, thin, *convex then flattened*, obtuse, *at length depressed* and unequal, rimosely split when dry,

even, smooth: **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, *tough*, equal but attenuated at the base and not rooted, even, *everywhere smooth*, polished, *pallid-rufescent*. **Gills** *adnate*, obtuse behind, *not much crowded, very broad, rather thick*, becoming pale white, *edge serrulated*. Collybia.

Solitary, inodorous. The pileus is easily split at the margin. It may be safely distinguished from *A. dryophilus* by its broad, thicker, and less crowded gills. The only allied species is *A. nitellinus*.

In mixed wood. Coed Coch, &c. Aug.

The plant is much darker in colour than the name would imply. Name—*succinum*, amber. Amber-coloured. *Fr. Monogr.* i. *p.* 162. *Hym. Eur. p.* 120. *Icon. t.* 65. *f.* 3. *B. & Br. n.* 1339. *S. Mycol. Scot. n.* 124. *Schæff. t.* 45. *C. Illust. Pl.* 151.

223. A. nummularius Fr.—**Pileus** 4 cent. (1½ in.) and more broad, pallid, variegated here and there with yellow and reddish, slightly fleshy, rather plane, *depressed round the obsolete umbo*, even. **Stem** 4 cent. (1½ in.) long, stuffed then hollow, smooth, pallid, thickened at the apex. **Gills** free, somewhat distant, white.

Beautiful, arid.

In mixed wood. Glamis, 1874. July–Oct.

Name—*nummulus*, a small coin. From some fancied resemblance to a coin in shape. The name of the subgenus indicates the same. *Fr. Hym. Eur. p.* 120. *B. & Br. n.* 1743. *S. Mycol. Scot. n.* 125. *C. Illust. Pl.* 151. Am. nummularia *Lamark. Bull. t.* 56. *Batt. t.* 22. *A.*

224. A. esculentus Wulf.—**Pileus** 12 mm. (½ in.) and more broad, *ochraceous-clay*, often becoming fuscous, *slightly fleshy*, convex then plane, orbicular, *obtuse*, smooth, even, or when old slightly striate; flesh tough, white, savoury. **Stem** 2.5 cent. (1 in.) and more long, scarcely 2 mm. (1 lin.) thick, or filiform and wholly equal, *obsoletely fistulose*, tough, *tense and straight*, even, smooth, slightly shining, *clay-yellow*, with a *long, perpendicular*, commonly *smooth*, tail-like *root*. **Gills** adnexed, even decurrent with a very thin small tooth, then separating, *very broad*, almost obovate, lax, *somewhat distant, whitish*, sometimes clay-colour.

Gregarious but never cæspitose. The tube of the stem is very narrow. The gills are not so pure white as in *A. tenacellus*. Although it seems to be well distinguished from *A. tenacellus* in its life-history as well as in its colour, individual specimens occur which can often be determined only with difficulty, and many, which appear at first sight to admit of no doubt, have been ascertained, on digging up the root, to belong to *A. tenacellus* var. *stolonifer*.

In pastures and grassy places near plantations. Common. April–May.

Collybia.

Edible, but rather bitter in flavour. In Austria, where it seems to be plentiful, it is sold under the name of Nagelschwämme, nail-mushroom. Name—*esculentus*, esculent. *Wulf. in Jacq. Coll.* ii. *t.* 14. *f.* 4. *Fr. Monogr.* i. *p.* 166. *Hym. Eur. p.* 121. *Berk. Out. p.* 118. *C. Hbk. n.* 158. *Illust. Pl.* 152. *S. Mycol. Scot. n.* 126. *Tratt. Essb. Schw. t. F. Lenz. f.* 18. A. perpendicularis *Bull. t.* 422. *f.* 2. A. clavus *Brig. Neap. t.* 5. *f.* 4. *Vaill. t.* 11. *f.* 16–18.

225. A. tenacellus Pers.—**Pileus** about 12 mm. (½ in.) broad, *fuscous then becoming pale*, livid, very rarely white, slightly fleshy, convex then flattened, orbicular, *somewhat umbonate*, even, smooth; flesh white, not hygrophanous. **Stem** 5–7.5 cent. (2–3 in.) long, but here and there lengthened to 10–12.5 cent. (4–5 in.), scarcely 2 mm. (1 lin.) thick, *obsoletely fistulose* (tube very narrow), wholly equal, *tense and straight*, but pliable, even, smooth, becoming tawny, naked and white at the apex, with a *fibrillose tail-like root at the base.* **Gills** *emarginato-adnexed*, broad, *ventricose*, hence they appear lax, *somewhat distant*, distinct, quaternate, *snow-white.*

Odour none; taste not unpleasant. Solitary though sometimes in troops; very tough.

In pine woods, among leaves or cones. Common. Autumn–Spring.

Easily distinguished by the *broad*, *emarginato*-adnexed gills. Spores 3 × 6 mk. *W.G.S.*; 6–8 × 4 mk. *B.* Name—diminutive, *tenax*, tough. Toughish. *Pers. Syn. p.* 387. *Ic. pict. t.* 1. *f.* 3, 4. *Fr. Monogr.* i. *p.* 165. *Hym. Eur. p.* 121. *Berk. Out. p.* 118. *C. Hbk. n.* 157. *Illust. Pl.* 152. *S. Mycol. Scot. n.* 127. A. griseus *Schæff. t.* 236 (small.)

*** A. stolonifer** Jungh.—**Pileus** fuscous becoming pale, slightly fleshy, rather plane, obtuse (somewhat depressed), smooth, margin slightly striate. **Stem** fistulose, equal, smooth, *becoming fuscous*, with a *creeping*, *somewhat stoloniferous* (sparingly fibrillose) *root.* **Gills** *rounded-adnexed*, ventricose, somewhat distant, whitish.

Very singular in the creeping root (a prolongation of the stem continuous with it, not mycelium), which in neighbouring species is perpendicular; otherwise so near to *A. tenacellus* and *A. esculentus* that it seems to unite these.

In pine woods, among leaves. Frequent. Autumn–Spring.

Spores ellipsoid, 6–8 × 3–4 mk. *K.* Name—*stolo*, a sucker; *fero*, to bear. Stolon-bearing. From the root. *Jung Linn.* 1830, *p.* 396. *Fr. Hym. Eur. p.* 121. *Monogr.* i. *p.* 165. *B. & Br. n.* 1744. *S. Mycol. Scot. Supp. Scot. Nat. vol.* vi. *p.* 214. *C. Illust. Pl.* 152. *B.* A. tenacellus var. *Fr. in Fl. Dan. t.* 2021. *f.* 2.

*** Gills narrow, crowded.*

226. A. acervatus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *flesh-*

colour when moist, *whitish when dry, slightly fleshy*, convex then flattened, obtuse or at length gibbous; margin at first involute, at length flattened and slightly striate. **Stem** 5–10 cent. (2–4 in.) long, 2–4 mm. (1–2 lin.) thick, *remarkably fistulose, rigid-fragile*, slightly attenuated upwards, rarely compressed, *very smooth* with exception of the base, even, *rufous*, sometimes brown; tube of the stem internally smooth. **Gills** at first adnexed, soon free, *very crowded, linear*, narrow, plane, flesh-colour then whitish. Collybia.

Cæspitoso-fasciculate; stems crowded, very numerous, united and white-tomentose at the base. Nearest to *A. confluens* in affinity, but a wholly distinguished species. At first sight like *Marasmius erythropus*, but the stem is wholly smooth.

In woods, among fir. Frequent. Autumn.

Resembling *A. dryophilus*. In the British plant the inner walls of the fistulose stem are strigose. *M.J.B.* Spores ellipsoid, 6×3 mk. *K.*; 4-6×2-4 mk. *B.* Name—*acervus*, a heap. From the habit of growth. *Fr. Monogr.* i. *p.* 160. *Hym. Eur. p.* 122. *Icon. t.* 64. *f.* 2. *Berk. Out. p.* 119. *C. Hbk. n.* 152. *Illust. Pl.* 267. *S. Mycol. Scot. n.* 128.

227. A. dryophilus Bull.—**Pileus** bay-brown-rufous, &c., *becoming pale*, but not hygrophanous, slightly fleshy, tough, convexo-plane, *obtuse, commonly depressed in the centre*, even, smooth; margin at first inflexed then flattened; flesh thin, white. **Stem** cartilaginous, *remarkably fistulose*, thin, even, smooth, somewhat rooting, commonly *becoming yellow* or *rufescent*. **Gills** *somewhat free*, with a small decurrent tooth, but appearing adnexed when the pileus is depressed, *crowded, narrow*, distinct, plane, *white* or becoming pale.

The above description contains the points in which very different forms agree. Pileus bay-rufous, becoming yellow, clay-colour; in drier pine woods in the beginning of summer there is a common form with the pileus and gills white and stem yellow. The gills vary sulphur-yellow, sometimes (in a diseased state) tan-cinnamon. Solitary or laxly gregarious, inodorous. There are numerous monstrous forms which are very deceiving (compare *Fl. Dan. t.* 2019. *f.* 1, 2). A. stem elongated, flexuous, decumbent, inflated at the base; pileus broader, *lobed;* gills white. B. *funicularis*, larger, cæspitose, the lax and decumbent stem equal and villous at the base, gills sulphur-yellow. These forms, analogous with *A. repens* Bull., occur on heaps of leaves. C. countless specimens growing together in a large cluster; stems thick, inflated, irregularly shaped, *sulcate*, brown, the mycelium collecting the soil in the form of a ball; pilei very irregularly shaped, full of angles, undulated, blackish then bay-brown. In gardens.

In woods, among leaves, &c. Common. Spring–Autumn.

Pileus commonly 2.5–7.5 cent. (1–3 in.) broad. Stem 5-7.5 cent. (2–3 in.) long, 6 mm. (¼ in.) thick. Badham refers to a case in which illness was caused by eating it. Spores 6 mk. *W.G.S.* Name—δρῦς, oak; φίλος, loving. *Bull. t.* 434. *Fr. Monogr. p.* 162. *Hym. Eur. p.* 122. *Berk. Out. p.* 119. *C. Hbk. n.* 155. *Illust. Pl.* 204. *S. Mycol. Scot. n.* 129. *Sow. t.* 127. *Hussey* i. *t.* 39. *Badh.* i. *t.* 8. *f.* 2, ii. *t.* 7. *f.* 5.—*Schæff. t.* 45.

Collybia.

228. A. aquosus Bull. — **Pileus** watery, ochraceous or brick-colour then whitish, slightly fleshy, rather plane, obtuse, smooth, *hygrophanous*, *margin* striate. **Stem** fistulose naked, rufous-tawny, fibrillose at the base. **Gills** *rounded-free*, crowded, narrow, tense and straight, white or pallid.

Among moss. Coed Coch, &c. Autumn.

In 'Monographia' the plant is described as A. aquosus *Fr.* and the plant of Bulliard is referred to as a trivial form, holding a doubtful place between it and *A. dryophilus*. This view is followed in 'Icones,' but has not been confirmed in 'Hym Eur.' The difference is scarcely appreciable, the stem being described as stuffed, while in Bulliard's plant it is fistulose. Spores 5–6 × 3–4 mk. *B.* Name—*aqua*, water. From its watery nature. *Bull. t.* 12. *Fr. Hym. Eur. p.* 122. *Monogr.* i. *p.* 163. *Icon. t.* 66. *f.* 2. *B. & Br. n.* 1340. *C. Illust. Pl.* 234.

229. A. extuberans Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, rufous-fuscous, bay-brown, occasionally becoming pale, but not hygrophanous, slightly fleshy, convex then flattened, orbicular, and at length depressed round the prominent umbo, even, smooth, slightly viscid when moist; flesh white. **Stem** 4 cent. (1½ in.) long, 3 mm. (1½ lin.) thick, tough, fistulose, equal, tense and straight, smooth, even, shining, of the same colour as the pileus or paler, rooted at the base. **Gills** somewhat free, reaching the stem with a small tooth, crowded, narrow, plane, white.

The pileus is larger and solitary when growing on the ground, smaller when cæspitose and growing on trunks. Appearing in spring and again in autumn. It is intermediate between *A. dryophilus* and *A. tenacellus*, clearly distinct from the former in the *stem* being *tense and straight and rooted*, and in the *pileus* being *umbonate*, and from the latter in the *gills* being *crowded and narrow*. The umbo is rarely so prominent as in the figure of Battarra.

On the ground and trunks. Foxley. Sept.

Name—*extuberans*, swelling. From the swollen umbo. *Fr. Monogr.* i. *p.* 164. *Hym. Eur. p.* 123. *Icon. t.* 67. *f.* 1. *Grevillea*, *vol.* viii. *p.* 74. Bulla extuberans *Batt. t.* 28. *f.* 1.

230. A. exsculptus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, tawny-brown *not becoming pale*, slightly fleshy, tough, convexo-expanded, truly *umbilicate*, *unchangeable*, smooth. **Stem** short, 2.5 cent. (1 in.) long, *fistulose*, thin, incurved, smooth, *bright sulphur-yellow*. **Gills** somewhat free (decurrent with a small tooth), *arcuate*, *linear*, very crowded, *bright sulphur-yellow*.

Gregarious. Allied to the protean *A. dryophilus*, but separated from it on account of its being wholly more arid and tough, and on account of the bright sulphur-yellow of the whole plant with exception of the pileus which is darker.

On old stumps and in fir woods. Uncommon. June–Oct.

Gills transversely striate. *B. & Br.* Name—*exsculptus*, hollowed out. From its being umbilicate. *Fr. Monogr.* i. *p.* 164. *Hym. Eur. p.* 123. *Icon. t.* 66. *f.* 3. *Berk. Out. p.* 119. *B. & Br. n.* 1109. *C. Hbk. n.* 156. *Illust. Pl.* 268. *S. Mycol. Scot. n.* 130. Collybia.

231. A. macilentus Fr.—**Pileus** scarcely 2.5 cent. (1 in.) broad, *dark yellow*, slightly fleshy, convex then becoming plane, *obtuse*, orbicular, even, smooth, absolutely dry; flesh thin, yellow. **Stem** 4 cent. (1½ in.) long, scarcely 2 mm. (1 lin.) thick, *obsoletely fistulose*, tough, cartilaginous, *filiform-equal*, not tense and straight but *here and there flexuous*, naked, smooth, bright light-yellow, slightly rooted at the base. **Gills** separating-free, *very crowded, narrow, linear*, very unequal, of a beautiful *pure yellow*.

Its colour is so entirely that of *A. cerinus* that it may be easily confounded with very small forms of that species. *A. cerinus* differs, however, in the stem being stuffed, wholly fibrous, not cartilaginous, and externally fibrilloso-striate, in the pileus being at length depressed, dingy yellow, in the *white flesh*, and in the gills being broader and in very small forms adnate.

In pine wood. Corstorphine, &c.

Spores ovoid-pruniform, 5-6 mk. *Q.* Name—*macies*, leanness. From the thin flesh. *Fr. Monogr.* i. *p.* 166. *Hym. Eur. p.* 123. *Icon. t.* 66. *f.* 1. *B. & Br. n.* 1848. *C. Illust. Pl.* 268.

232. A. clavus Linn.—**Pileus** 4–8 mm. (2–4 lin.) broad, *orange-scarlet*, disc often darker, slightly fleshy, very thin, conico-convex then plane, *somewhat papillate*, smooth, *shining*, margin slightly striate. **Stem** scarcely 2.5 cent. (1 in.) long, *obsoletely fistulose*, or only marked with a paler line, very thin, filiform, naked, smooth, whitish, somewhat strigose at the base. **Gills** adnexed, *ventricose*, rather broad, *somewhat crowded*, but not numerous, *white*, rarely becoming yellow.

The smallest and among the rarest species in the group, but long celebrated on account of its splendid colours (like those of *A. acicula*, with which it must not be confounded).

On twigs, leaves, &c. Rare.

Differing from *A. acicula* in its white stem and gills. *M. & B.* Name—*clavus*, a nail. From its nail-like shape. *Linn. Fl. Suec. n.* 1212.—*Bull. t.* 148. *A—C*, 569. *Fr. Monogr.* i. *p.* 167. *Hym. Eur. p.* 123. *Berk. Out. p.* 119. *C. Hbk. n.* 159. *Illust. Pl.* 147. *S. Mycol. Scot. n.* 131. *Paul. t.* 97. *f.* 3. *Vaill. Par. t.* 11. *f.* 19-20.

233. A. ocellatus Fr.—**Pileus** scarcely reaching 12 mm. (½ in.) broad, often less, *whitish*, slightly fleshy, conico-convex then plane, *marked with small eye-like spots at the depressed, darker* (fuscous, rufous, light yellowish), *umbonate disc*, even, margin here and there crenulate. **Stem** 2.5 cent. (1 in.) or a little more long, *delicately fistulose*, equal, *filiform*, tough, smooth, *naked* (in

Collybia

no wise pulverulent), *becoming whitish-fuscous* or becoming yellow, somewhat rooted and fibrillose at the base. **Gills** adnate, at length separating, *crowded*, the alternate ones shorter, *white*.

Arid, moderately persistent. Not to be confounded with *A. cirrhatus*, to which it is like, but not allied.

Among leaves and in grassy places. Uncommon. Sept.–Oct.

Name—*ocellus*, a little eye. From the eye-like spots. *Fr. Monogr.* i. *p.* 167. *Hym. Eur. p.* 123. *Berk. Out. p.* 120. *C. Hbk. n.* 160. *Illust. Pl.* 147. *S. Mycol. Scot. n.* 132. *Bull. t.* 569. *f.* 1. *H—P.*

234. A. muscigenus Schum. Wholly shining white.—**Pileus** 4–6 mm. (2–3 lin.) broad, *somewhat membranaceous*, pellucid, globoso-hemispherical then flattened, obtuse, even, smooth, withering up, the margin entire and persistent, not revolute. **Stem** 2.5 cent. (1 in.) and more long, *stuffed* (on account of its thinness), *capillary, flexuous, flaccid*, smooth and naked, somewhat rooting at the base. **Gills** *adnate, somewhat crowded*, linear, the alternate ones shorter, edge quite entire.

Very thin. *A. capillaris* is easily distinguished by its broader distant gills.

Among moss and grass. Coed Coch, 1873, &c. Aug.

Name—*muscus*, moss; *gigno*, to bear. Growing on moss. *Schum. p.* 307. *Fr. Monogr.* i. *p.* 168. *Hym. Eur. p.* 124. *B. & Br. n.* 1408. *Fl. Dan. t.* 2023. *f.* 1. *Mich. t.* 73. *f.* 4. *C. Illust. Pl.* 147.

SERIES B.

IV.—Tephrophanæ.

* *Gills crowded, somewhat narrow.*

235. A. rancidus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) and more broad, not hygrophanous, lead-colour-black, fuliginous, becoming pale, at first veiled with a whitish, adpressed, *silky-pruinose dew*, slightly *fleshy-cartilaginous, tough*, convex then plane, broadly and obtusely *umbonate*, even, smooth, viscid when long wetted. **Stem** 7.5–15 cent. (3–6 in.) long, 4 mm. (2 lin.) thick, *fistulose, rigid*, tense and straight, equal, *smooth*, even, livid, with a *long, fusiform*, villous root. **Gills** *free, crowded, narrow*, but ventricose, *dark cinereous*, somewhat pruinose.

Strong odour of new meal, somewhat rancid. Var. Pileus 6 cent. (2½ in.) broad, shining, almost black, bullate, repand, depressed round the umbo, and outside this depression encircled with an elevated ridge. Stem 5 cent. (2 in.) long, root short. Gills linear, veined and connected by veins, fuliginous, white pruinose.

In woods about trunks. Burnham Beeches, 1875, &c. Nov. Collybia.

The smell is very peculiar; the gills very dark, so as to be easily mistaken for those of a *Hebeloma*. *B. & Br.* Spores 7–10 × 3–4 mk. *B.* Name—*rancidus*, rancid. From the smell. *Fr. Monogr.* i. *p.* 170. *Hym. Eur. p.* 125. *Icon. t.* 69. *f.* 1. *B. & Br. n.* 1513. *Kalchbr. t.* 6. *f.* 4. *Hoffm. Ic. t.* 12. *f.* 2. *C. Illust. Pl.* 153.

236. A. coracinus Fr. — **Pileus** 4 cent. (1½ in.) and more broad, *hygrophanous*, fuscous and shining when in vigour, grey and opaque when old, somewhat fleshy-cartilaginous, convexo-expanded, sometimes umbonate, sometimes depressed, often *irregularly formed* and undulated, even or wrinkled round the margin, smooth; flesh white, scissile. **Stem** 4 cent. (1½ in.) long, 4 mm. (2 lin.), but in becoming flattened, 8–10 mm. (4–5 lin.) broad, *hollow*, *remarkably cartilaginous*, tough and *rigid* when young, at length fragile, for the most part *compressed*, irregularly formed (occurring also lacunose), somewhat attenuated downwards and *not rooted*, becoming fuscous, *mealy with white squamules at the apex*. **Gills** *obtusely adnate*, separating, so that they often appear free, *broad* (chiefly behind), *scarcely crowded*, at first distinct, then connected by veins, *whitish-grey*.

The gills are connected by veins chiefly in irregularly formed specimens. *Strong* odour of new meal.

In grassy places, fir plantations. Batheaston, 1865. Nov.

Name—κόραξ, a raven. Raven-black. The plant is not so dark in colour as the name would indicate. Spores ovoid-spherical, dotted, 6–7 mk. *Q. Fr. Monogr.* i. *p.* 170. *Hym. Eur. p.* 125. *Icon. t.* 69. *f.* 2. *B. & Br. n.* 1207. *C. Illust. Pl.* 153.

237. A. ozes Fr.—**Pileus** 2.5 cent. (1 in.) or a little more broad, *hygrophanous*, grey-fuscous when moist, becoming clay-fuscous, pallid when dry, slightly fleshy, convex then plane, *umbonate*, smooth, striate at the very margin when moist, even throughout when dry. **Stem** 6–10 cent. (2½–4 in.) long, 2 mm. (1 lin.) thick, *containing a pith then hollow*, equal or scarcely sensibly attenuated from the base, lax, *flexuous*, *fragile*, *slightly striate*, fuliginous-grey, *white-mealy at the apex*. **Gills** *adnate*, somewhat ventricose, *crowded*, 4–6 mm. (2–3 lin.) broad, quite entire, *fuliginous-olivaceous*.

Odour strong of new meal.

On the ground. Hothorpe, Norths., 1882. Feb.

Gills cinereous, veined. *B. & Br.* Name—ὄζω, to have a smell, either sweet or stinking. *Fr. Monogr.* i. *p.* 171. *Hym. Eur. p.* 125. *B. & Br. n.* 1996.

Collybia.

238. A. inolens Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, hygrophanous, livid when moist, becoming pale-tan and slightly silky when dry, but opaque, *slightly fleshy*, campanulato-convex then plane, for the most part obtusely and broadly *umbonate*, very smooth, margin at first inflexed, then expanded, striate, here and there undulated. **Stem** 5–7.5 cent. (2–3 in.) and more long, 2–3 mm. (1–1½ lin.) thick and broader in becoming compressed, *rigid*, delicately fistulose, at length softer and *hollow*, equal, *undulated* on the surface, *livid*, becoming pale when dry, *white strigose at the base and white squamulose at the apex*. **Gills** *adfixed, separating*, somewhat free, 2–4 mm. (1–2 lin.) broad, linear or a little ventricose, somewhat imbricated, *whitish-grey*.

The pileus is not so cartilaginous as in *A. rancidus* and *A. coracinus*. Manifestly related to these, but the *odour* is *weak*, and often obsolete.

In woods, chiefly pine. Uncommon. Sept.–Nov.

Spores ovoid-ellipsoid, 7–8×3–4 mk. *K.* Name—*inolens*, scentless. *Fr. Monogr.* i. *p.* 171. *Hym. Eur. p.* 126. *Icon. t.* 69. *f.* 3, 4. *B. & Br. n.* 1208. *C. Hbk. n.* 161. *Illust. Pl.* 154. *S. Mycol. Scot. n.* 133.

239. A. plexipes Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, at first blackish, whitish at the margin, then fuliginous-livid, fleshy-membranaceous, *campanulate* (not flattened), *umbonate*, *somewhat wrinkled*, slightly striate. **Stem** 7.5 cent. (3 in.) long, 2–4 mm. (1–2 lin.) thick, *fistulose*, equal, wholly cartilaginous, but the *surface under a lens is silky fibrous with the closely adpressed entwined fibrils*, and slightly striate, livid, *shortly and bluntly rooted* at the base and not strigose. **Gills** very much attenuated behind, *free*, ventricose, *somewhat crowded*, white then becoming glaucous.

Most distinct; quite *inodorous*, *tough*, firm, very like *Mycenæ rigipedes*, but not allied to these. By analogy it is nearest to *A. rancidus*.

In woods. Uncommon. Oct.

Spores 4×8 mk. *W.G.S.* Name—*plecto*, to twist; *pes*, a foot. With twisted stem. *Fr. Monogr.* i. *p.* 173. *Hym. Eur. p.* 126. *B. & Br. n.* 1209. *C. Hbk. n.* 162. *Illust. Pl.* 154 *b*. *S. Mycol. Scot. n.* 134. *Fl. Dan. t.* 2023. *f.* 2.

240. A. atratus Fr.—**Pileus** scarcely 2.5 cent. (1 in.) broad, *pitch-black* and shining when moist, fuscous when dry, *slightly fleshy*, *firm*, *plano-depressed* at the disc, convex towards the margin, orbicular, very even, smooth, viscid when very long wetted. **Stem** *curt*, scarcely 2.5 cent. (1 in.) long, 2–4 mm. (1–2 lin.), thick, stuffed (at length fistulose), remarkably cartilaginous, *tough*, equal or thickened upwards, round, even, *smooth*, *externally*

and internally fuscous. **Gills** adnate, scarcely decurrent, at first arcuate, then plane, rather broad, somewhat distant, whitish then grey, becoming fuscous. Collybia.

Inodorous, late; a small but firm species. Widely removed from all the preceding species in this group. Between *Collybia* and *Omphalia*.

On burnt soil. Uncommon. Nov.

Spores 5×4 mk. *W.G.S.* Name — *ater*, black, dark-coloured. *Fr. Monogr.* i. *p.* 175. *Hym. Eur. p.* 127. *Icon. t.* 70. *f.* 1. *Berk. Out. p.* 120. *C. Hbk. n.* 165. *Illust. Pl.* 155. *S. Mycol. Scot. n.* 135.

241. A. ambustus Fr.—**Pileus** 2.5 cent. (1 in.) broad, at first fuscous, then fuscous-livid, *somewhat membranaceous*, convex then plane, at length depressed, *umbonate with a minute papilla*, smooth, at first even, then slightly striate. **Stem** 2.5 cent. (1 in.) long, rarely more, not 2 mm. (1 lin.) thick, *stuffed*, at length fistulose, truly cartilaginous, *tense and straight*, livid-fuscous, *pruinose when young*, naked when full grown. **Gills** *adnate*, with a decurrent tooth, *crowded*, plane, lanceolate, *becoming fuscous*.

Very small, tough, often gregarious, inodorous, *wholly fuliginous*. Very closely allied in reality to *A. atratus*, but as that species inclines to *Omphaliæ*, this inclines to *Mycenæ*, but the margin being at the first involute shows that it is a true *Collybia*.

On scorched ground. Kew, &c.

Spores 5 mk. *W.P.* Name—*amburo*, to burn. From its growing on burnt ground. *Fr. Monogr.* i. *p.* 175. *Hym. Eur. p.* 127. *Icon. t.* 70. *f.* 2. *B. & Br. n.* 1409. *C. Illust. Pl.* 155.

*** Gills very broad, more or less distant.*

242. A. laceratus Lasch.—**Pileus** 4 cent. (1½ in.) broad, fuliginous, at length becoming pale, fleshy-membranaceous, campanulate, somewhat blunt, *moist, streaked with fuscous lines*, cracked, slightly shining. **Stem** 5–10 cent. (2–4 in.) long, stuffed then hollow, firm, twisted, fibroso-striate, floccoso-pruinose at the apex, at length compressed, slightly shining. **Gills** adnexed, distant, broad, thick, white-grey.

Somewhat cæspitose. Occupying an irregular place among *Collybiæ*, but allied to *A. platyphyllus*.

In pine woods. Rare. Autumn.

Spores ovoid-spherical, 6–7 mk. *Q.* Name—*lacero*, to tear. Torn. *Lasch.*—*Fr. Hym. Eur. p.* 127. *Berk. Out. p.* 120. *C. Hbk. n.* 163.

243. A. murinus Batsch.—**Pileus** 2.5 cent. (1 in.) and more broad, fuscous-brown, becoming pale when old, *slightly fleshy*,

Collybia. slightly tough, companulato-convex then expanded, *obtuse* or umbilicate, without striæ, *slightly wrinkled or very thinly squamulose*, the margin, which is at first involute, always even. **Stem** 5–7.5 cent. (2–3 in.) long, 4 mm. (2 lin.) thick, *hollow*, equal, *tense and straight, not rooted* and pubescent only at the base, at first sight smooth, but *somewhat fibrillose when examined under a lens, becoming cinereous*, white and when young as if flocculose at the apex. **Gills** *attenuato-adnexed*, very broad, almost obovate, rather thick, *distant*, distinct, white at length becoming cinereous.

Inodorous. Its affinity is perhaps nearest to *A. atratus.*

In wood. Marlborough Forest, 1863. Oct.

Name—*mus*, a mouse. Mouse-coloured. *Batsch f.* 19 (if white-spored). *Fr. Monogr.* i. *p.* 172. *Hym. Eur. p.* 128. *B. & Br. n.* 1210.

244. A. protractus Fr.—Pileus scarcely 2.5 cent. (1 in.) broad, grey-fuscous, shining, somewhat membranaceous, convexo-plane, the *slightly fleshy depressed disc* often with the rudiment of a central umbo, the paler margin manifestly striate. **Stem** 7.5 cent. (3 in.) long above ground, 2 mm. (1 lin.) thick, *delicately fistulose*, remarkably cartilaginous, but at length soft, *tense and straight*, even, wholly smooth, livid-grey, under ground *extended in the form of a root which is attenuated downwards and fibroso-strigose.* **Gills** adfixed, but very ventricose, as if truncate behind, very broad (6 mm., 3 lin., and more), *somewhat distant, grey, delicately white-pruinose.*

Scarcely strong-smelling; very different from *A. inolens.*

On mossy ground beside stumps, &c. Rare. Aug.–Nov.

Name—*protraho*, to draw out. From the prolongation of the stem in a root-like form. *Fr. Monogr.* i. *p.* 173. *Hym. Eur. p.* 128. *Icon. t.* 67. *f.* 2. *B. & Br. n.* 1110. *C. Hók. n.* 164. *Illust. Pl.* 270. *S. Mycol. Scot. n.* 136.

245. A. tesquorum Fr.—**Pileus** 6–10 mm. (3–5 lin.) broad, fuscous-black, becoming pale, fleshy-membranaceous, slightly firm, convex, very obtuse, even, smooth; flesh of the same colour. **Stem** 4 cent. (1½ in.) long, not reaching 2 mm. (1 lin.) broad, fistulose, somewhat filiform, equal, flexuous, smooth, fuscous, mealy at the apex. **Gills** *free*, very ventricose, 4 mm. (2 lin.) broad, *somewhat distant*, cinereous-fuscous.

Scattered. Odour none. Formerly overlooked on account of its very small stature and dirty colours, but very distinct. Easily distinguished from species nearest to it by its free broad gills.

In waste ground and open pastures. Ascot.

Name—*tesqua*, waste places. *Fr. Monogr.* ii. *p.* 290. *Icon. t.* 70. *f.* 3. Collybia. *B. & Br. n.* 1745. *C. Illust. Pl.* 270.

246. A. clusilis Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, livid when moist, becoming pale, grey-clay-colour when dry, *somewhat membranaceous*, rather plane, broadly *depressed in the centre*, very much sloped downwards *towards the margin*, which is at first *incurved*, even, smooth, soft-fragile, slightly striate at the margin when moist, even throughout when dry. **Stem** 4 cent. (1½ in.) long, scarcely 2 mm. (1 lin.) thick, wholly cartilaginous, *soft*, however, and *flexile*, *stuffed with a white floccose pith*, equal, even, smooth, polished, livid. **Gills** *adnate*, plane, with a decurrent tooth, 4–6 mm. (2–3 lin.) broad, not ventricose, but *in the form of a segment*, on account of their breadth appearing somewhat crowded, white, becoming pale.

B. Pileus 12 mm. (½ in.) broad, livid when moist, becoming pale when dry, somewhat membranaceous, at first *lens-shaped-globose*, *then hemispherical*, *umbilicate*, striate when moist, even when dry. Stem 5 cent. (2 in.) long, 2 mm. (1 lin.) thick, flocculoso-stuffed, then hollow, white villous at the base. Gills *very broad*, *semicircular*, plane with a straight edge, crowded, thin, white. It is scarcely possible to separate the two forms. Approaching *Omphaliæ*.

Among moss. Coed Coch, 1869, &c. Autumn.

Name—*clusilis*, easily closing. *Fr. Monogr.* i. *p.* 174. *Hym. Eur. p.* 129. *B. & Br. n.* 1211. b. minor. *C. Illust. Pl.* 247. A. umbilicatus *Bull. t.* 411. *f.* 2.

247. A. tylicolor Fr.—**Pileus** only 12 mm. (½ in.) broad, *grey-cinereous*, *slightly fleshy*, convex then flattened, *somewhat umbonate*, even, *unpolished* and opaque. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, *fistulose*, somewhat fragile, *not rooted*, equal, even, grey, *everywhere whitish-pulverulent*. **Gills** *free*, *distant*, *broad*, plane, rather thick, bi-quaternate, paler than the pileus, grey.

Inodorous, very undistinguished in its habit, but its affinity is not apparent.

In shady woods among grass. Coed Coch. Autumn.

Name—of the colour of *tylos*, a small worm, *Vermis multipes*. The name is used by Pliny, and has been identified by some with *oniscus*, the wood-louse. From the cinereous colour. The synonym of Persoon, *spodochrous* (σποδός, ashes; χρώς, colour) signifies ash-coloured. *Fr. Monogr.* i. *p.* 176. *Hym. Eur. p.* 129. *B. & Br. n.* 1341. *C. Illust. Pl.* 247.

Mycena. *Subgenus VII.* **MYCENA** (μύκης, a fungus). Fr. Syst. Myc. i. p. 140. Stem fistulose, *cartilaginous*. Pileus somewhat membranaceous, more or less striate, at the first conico- or parabolico-cylindrical *by reason of the margin being at the first straight, and either clasping the stem which is attenuated upwards, or pressed close and parallel to it.* Gills not decurrent (or only uncinate by a small tooth). *Epiphytal or rooted, slender, somewhat campanulate, scarcely umbilicate. Fr. Hym. Eur. p.* 129.

VIII. Agaricus (*Mycena*) *polygrammus.* One-fourth natural size.

Distinguished from the minute Collybiæ by the margin of the pileus never being involute, but straight and pressed parallel to the stem, and from the Mycenarian Omphaliæ by the pileus being commonly umbonate. Some last far into autumn or winter; others are very fugacious. Most of them are inodorous, but some have an alkaline smell or an odour of radish. None of them are edible.

I. Calodontes (καλός, beautiful; ὀδούς, a tooth). Stem juiceless, base not dilated into a disc. *Edge of gills darker, denticulate* (more or less, *Monogr.*), a mark by which they are distinguished from all others, except *A. sanguinolentus*, which has a milky stem. *By far the most distinguished species.*

II. Adonideæ (from *Adonis*, denoting beauty). Stem juiceless, base not dilated into a disc. *Gills of one colour*, and not of a different colour at the edge, nor changing colour. *Colour pure, bright, not becoming fuscous or cinereous.* Growing singly on the ground (except *A. Iris*) and requiring to be carefully distinguished from white and coloured varieties of Rigipedes, the gills of which turn pale from white.

III. Rigipedes (rigid-stemmed). Stem firm, rigid, somewhat tough, juiceless, somewhat strigose and rooted at the base. Gills changing colour, white then grey or reddish, commonly at length connected by veins. Pileus not hygrophanous. *Tough, persistent, inodorous, normally growing on wood and very cæspitose, but individuals occur growing singly and on the ground.*

IV. Fragilipedes (fragile-stemmed). Stem *fragile*, dry, juiceless, fibrillose at the base, scarcely rooting, but not dilated or inserted. Pileus hygrophanous. Gills *changing colour*, at length somewhat connected by veins. *Thinner, fragile, often soft, commonly smelling, normally growing singly and on the ground, a few* (strong-smelling ones) *growing on wood and cæspitose.*

V. Filipedes (thread-stemmed). Stem filiform, scarcely a line thick (and not more), *flaccid*, somewhat tough, rooting, dry, juiceless, commonly very long in proportion to the pileus. *Gills changing colour*, somewhat lighter-coloured at the edge, *distinct. Very slender, tense and straight, growing on the*

ground, and among moss, inodorous, single (not cæspitose), *pileus fuscous becoming somewhat pale, not hygrophanous,* in the last species *orange.* Mycena.

These differ from their nearest allies the *Rigipedes* by their mode of growth, their stature, their flaccid stem, with its very narrow tube, and their gills which are scarcely connected by veins. But species with a filiform stem also occur in the remaining sections, and therefore the other marks must be attended to; there are also slender forms among the *Fragilipedes.*

VI. Lactipedes (milky-stemmed). Gills *milky* when broken as well as the rooted, dry stem.

VII. Glutinipedes (glutinous-stemmed). Stem juiceless, but *viscous* with gluten. Gills at length decurrent with a tooth. Some of the species in the foregoing sections, which are only slippery to the touch when moist, must be duly separated from this group.

VIII. Basipedes (stem furnished with a base). Stem dry, rootless, *the base naked and dilated into a disc,* or strigose and *swollen into a little bulb. Tender, growing singly, becoming flaccid.*

IX. Insititiæ (*insero,* to insert or graft). Stem very thin, *inserted* (*i.e.* growing on other plants without a root or tubercle or flocci at the base), dry. Gills *adnate,* uncinate with a small decurrent tooth (and not as in the *Omphalian Integrelli* truly decurrent). *Very tender, becoming flaccid as soon as the sun touches them.* (*A. roridus* Fr. is the only species in the foregoing sections which is inserted, but it is very glutinous.)

I.—Calodontes. *Edge of gills darker, denticulate, &c.*

248. A. pelianthinus Fr.—**Pileus** 4 cent. (1½ in.) broad, pale *purple livid,* becoming pale and rather whitish when dry, diaphanous, *convex,* obtuse or obsoletely umbonate, fleshy and even at the disc, membranaceous and striate at the margin; flesh of the disc moderately thick, white. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, equal, sometimes incurved at the base, round, slightly firm, of the same colour as the pileus but paler, even, smooth or *fibrillose upwards,* naked. **Gills** truncato-adnexed, remarkably *sinuate,* distant, *very elegantly connected by a network of veins,* quaternate, more than 2 mm. (1 lin.) broad, *dark violaceous, edge remarkably black-toothed.*

Departing from the rest especially in its unusual colour; from its more fleshy, convex (not campanulate) pileus it holds a doubtful place between *Collybiæ* and *Mycenæ.* The spores are wholly white, though the colour of the gills is that of *Pratellæ.*

Among dead leaves in woods. Uncommon. Sept.

The edge of the gills at once distinguishes it from *A. purus. M.J.B.* Spores 5–6 × 3–7 mk. *B.* Name—πελιαίνω, to make livid. *Fr. Monogr.* i. *p.* 196. *Hym. Eur. p.* 130. *Berk. Out. p.* 121. *t.* 6. *f.* 1. *C. Hbk. n.* 166. *Illust. Pl.* 156. *S. Mycol. Scot. n.* 137. *Quel. t.* 4. *f.* 6. *Batt. t.* 19. *f.* 1. A. denticulatus *Bolt. t.* 4. *f.* 1. B. more slender *Fl. Dan. t.* 1911. *f.* 1.

249. A. balaninus Berk.—**Pileus** 4 cent. (1½ in.) broad, ochraceous with a slight tinge of umber, fleshy-membranaceous, con-

Mycena. vex, somewhat campanulate, obtusely umbonate, at length more or less expanded, minutely pulverulent, slightly rugulose, striate when moist. **Stem** 6 cent. (2½ in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, attenuated downwards, flexuous, rigid, white and pruinose above, deep sienna-brown below, dark brown and villous at the base, shining, quite smooth. **Gills** rounded, quite free, with exception of a connecting tooth, broad, rather distant, pale, sprinkled and fringed with dull purple spiculæ, interstices veiny.

The base of the stem is embedded more or less in a spongy mass by which it adheres to the mast.

Among beech-mast, oak-leaves, &c. Rare.

Allied to *A. pelianthinus* but remarkably distinct. *Fr.* Spores elliptic. Name—βάλανος, acorn, beech-mast, &c. *Berk. Mag. Zool. Bot.* i. *t.* 15. *f.* 2. *Out. p.* 121. *Fr. Monogr.* i. *p.* 196. *Hym. Eur. p.* 130. *C. Hbk. n.* 167. *Illust. Pl.* 156.

250. A. Iris Berk.—**Pileus** ⅝–⅜ in. broad, membranaceous, hemispherical, obtuse, striate, umber, clothed with *blue fibrillæ* which are *glued down to the epidermis*, scattered in the centre, thicker and more free on the margin which is slightly denticulate. **Stem** 4–9 cent. (1½–3½ in.) long, not 2 mm. (1 lin.) broad, not rooting, blue below, subrufescent above, the down below depressed and blue, above nearly white, minutely but distinctly fasciculato-pilose. **Gills** free or slightly adnexed, linear, pale cinereous, the margin sometimes denticulate.

Fasciculate or scattered, brittle; when young the pileus and stem bright sky-blue and beautifully tomentose. The little fibrils glued down to the cuticle are very characteristic. When the stem is extremely elongated it is sometimes nearly smooth.

On fir stumps and sticks. Uncommon. Sept.–Oct.

It seems so much allied to *A. marginellus* that the figures of A. Iris *Berk. Out.* and of A. multiplex by *Gonn. & Rab. t.* 7. *f.* 4 can scarcely be distinguished. *Fr.* The denticulate gills place it in this section. Spores 7×4 mk. *W.P.* Name—Ἶρις, the rainbow. From its varied tints. *Berk. Eng. Fl.* v. *p.* 56. *Out. p.* 123. *t.* 6. *f.* 3. *Fr. Hym. Eur. p.* 131. *C. Hbk. n.* 174. *Illust. Pl.* 161. *S. Mycol. Scot. n.* 138.

251. A. marginellus Pers.—**Pileus** 6–8 mm. (3–4 lin.) broad, somewhat fuscous when young, then changeable in colour, slightly fleshy, campanulate, not viscid, with exception of the very smooth darker umbo slightly striate and *somewhat azure-blue-floccose*. **Stem** somewhat tomentose-rooted, with the same flocci as the pileus. **Gills** slightly adnexed, distant, white or cinereous, fringed at the edge with *dark floccules* (commonly azure-blue or red).

On fir-trunks among the *Hypnum cupressiforme*. Aboyne, &c. Aug.–Sept. Mycena.

Under a high magnifying power the pileus (especially the edge) and stem appear clothed with minute glandular particles similar to those which colour the edge of the gills. *B. & Br.* Name *margo*, margin. Diminutive. From the edge of the gills. *Pers. Syn. p.* 309. ? *Fr. Hym. Eur. p.* 131. *B. & Br. n.* 988. *C. Hbk. n.* 168. *S. Mycol. Scot. n.* 139. *Gonn. & Rab. t. 7. f.* 4. A. mirabilis *Cke. & Quel.*

252. A. aurantio-marginatus Fr.—**Pileus** 2.5 cent. (1 in) or a little more broad, olivaceous-fuscous, becoming pale when older, fleshy at the disc, campanulate then *convex*, obtuse or obsoletely umbonate, *even*, smooth, margin straight, slightly striate only at the margin when moist and unfolded. **Stem** 2.5–4 cent. (1–1½ in.) long, 6–8 mm. (3–4 lin.) thick at the base, 2–4 mm. (1–2 lin.) at the apex, firm, fistulose, *inflated* ventricose and zoned with yellow *strigose villous down at the base* (but scarcely rooted), even, smooth, livid-pale. **Gills** very ventricose, hence very *attenuato-adnexed*, at first sight appearing free, crowded, connected by veins, becoming green-livid, the orange *edge* toothed or rather *flocculoso-pencilled.*

In its slightly fleshy, campanulate then convex pileus, like *A. pelianthinus*, it inclines towards the *Collybiæ;* otherwise very much allied to *A. elegans*, perhaps a variety but larger and more fleshy.

In silver-fir wood. Perth, 1875. Nov.

Stem very brittle. Smell strong. It is admirably figured in the 'Flora Danica,' and has a peculiar aspect which separates it from other species, looking more like a *Marasmius* than a *Mycena*. *B. & Br.* Name—*aurantius*, orange; *margo*, margin. From the edge of the gills. *Fr. Monogr.* i. *p.* 197. *Hym. Eur. p.* 131. *B. & Br. n.* 1516. *S. Mycol. Scot. n.* 140. *Fl. Dan. t.* 1292. *f.* 2.

253. A. elegans Pers.—12 mm. (½ in.) and more broad, becoming light yellow-fuscous or light yellow-livid, opaque not hygrophanous, *membranaceous*, *campanulate*, more or less umbonate, *striate*, smooth. **Stem** about 5 cent. (2 in.) long, 2 mm. (1 lin.) thick, fistulose, rigid-tense and straight, equal, livid, floccoso-fibrillose at the base. **Gills** adnate, decurrent with a tooth, linear, slightly distant, distinct, commonly livid, bluish-grey at the sides, the *edge* always *darker*, *saffron-yellow*, *entire* not manifestly toothed.

The gills are changeable in colour, varying whitish, becoming yellow, &c., always, however, with the darker edge. Odour weak, of fennel, or even obsolete. Kalchbrenner gathered a singular variety called *hyperborea* (*Enum.* ii. *n.* 1039), with smoky or black gills, somewhat cinnabar at the edge.

In woods, chiefly pine. Frequent. Aug.–Nov.

Mycena. Spores 8–10 × 4–5 mk. *B.* Name—*elegans*, neat. *Pers. Syn. p.* 391. *Fr. Monogr.* i. *p.* 198. *Hym. Eur. p.* 131. *Berk. Out. p.* 121. *C. Hbk. n.* 169. *Illust. Pl.* 284. *a. S. Mycol. Scot. n.* 141. *Fl. Dan. t.* 2024.

254. A. rubro-marginatus Fr.—**Pileus** about 2.5 cent. (1 in.) broad, *hygrophanous*, *becoming red-livid* or purple-fuscous, *becoming pale* (variable), *membranaceous*, campanulate, obtuse, striate, smooth. **Stem** 2.5–5 cent. (1–2 in.) long, scarcely exceeding 2 mm. (1 lin.) thick, fistulose, rigid-fragile, equal, often curved-ascending, even, smooth, pallid-livid. **Gills** adnate, with a small decurrent tooth, *distant*, distinct, not ventricose, whitish then grey, *edge fuscous-purple*, not manifestly toothed.

It approaches *Galericulati* in its colours, but is smaller, not cæspitose, somewhat fragile, inodorous, juiceless. It has much in common with *A. sanguinolentus*, from which it differs in its stature and juiceless stem.

In woods, chiefly pine, on branches, &c. Frequent. July–Nov.

Name — *ruber*, red; *margo*, margin. From the red edge of gills. *Fr. Monogr.* i. *p.* 199. *Hym. Eur. p.* 132. *Icon. t.* 78. *f.* 4. *Berk. Out. p.* 122. *C. Hbk. n.* 170. *Illust. Pl.* 284. *b. S. Mycol. Scot. n.* 142. Var. fusco-purpureus *Lasch n.* 544. Among dead leaves. Very distinct from the usual form, having much the appearance of an exotic *Marasmius*. *B. & Br. n.* 1639.

255. A. strobilinus Fr.—**Pileus** 6–10 mm. (3–5 lin.) broad, *scarlet*, conical then campanulate, membranaceous, the slightly fleshy even *umbo acute*, slightly striate and most frequently paler at the circumference, smooth, dry. **Stem** 5 cent. (2 in.) long, 2 mm. (1 lin.) thick, fistulose, *slightly rigid*, equal, juiceless, even, smooth, *white-strigose at the base*. **Gills** *adnate*, decurrent with a thin tooth, distant, distinct, alternate, a little paler than the pileus, but the *edge* is darker, *black-blood colour*.

Somewhat fasciculate. The whole plant is shining, *persistently scarlet*, not changing colour or becoming pale.

On dead leaves, twigs, and cones of Scotch fir. Rare. Autumn.

Fries has gathered it in beech woods. Name—*strobilus*, a pine-cone. *Fr. Monogr.* i. *p.* 200 (A. coccinellus). *Hym. Eur. p* 132. *Berk. Out. p.* 122. *C. Hbk. n.* 171. *Illust. Pl.* 131. *A. S. Mycol. Scot. n.* 143. *Fl. Dan. t.* 2025. *f.* 1. A. coccineus *Sow. t.* 197. *C. Illust. Pl.* 131. *B.*

256. A. rosellus Fr.—**Pileus** rose-colour, at length *becoming pale*, wholly membranaceous and striate and *without a prominent* acute and even *umbo*, campanulate then hemispherical, obtusely umbonate, slightly hygrophanous. **Stem** thin, soft, white-tomentose not strigose at the base, juiceless. **Gills** scarcely decurrent with a tooth, somewhat distant, rose-colour, *edge black-purple*.

It has many features in common with *A. strobilinus*. It is smaller, thinner, *softer*, and paler. Both species preserve their habit, stature, and colours always unchanged, *A. rosellus* becoming pale only when old. Laxly gregarious. Mycena.

In woods, among fir-leaves. Uncommon. Sept.–Oct.

Spores subellipsoid, 6–8 × 4 mk. *K.*; 8–10 × 4 mk. *B.* Name—diminutive, *roseus*, rose-coloured. *Fr. Monogr.* i. *p.* 200. *Hym. Eur. p.* 132. *Berk. Out. p.* 122. *C. Hbk. n.* 172. *Illust. Pl.* 131. *C. S. Mycol. Scot. n.* 144. *Fl. Dan. t.* 2025. *f.* 2. *Gonn. & Rab. t.* 7. *f.* 11. A. roseus *Pers. Syn. t.* 5. *f.* 3.

II.—Adonideæ. *Colour pure, bright, &c.*

257. A. purus Pers.—**Pileus** 1–7.5 cent. (½–3 in.) broad, rose-colour, &c., slightly fleshy at the disc, campanulate then expanded, at length rather plane, breast-shaped with an obtuse even umbo, smooth, slightly striate at the margin. **Stem** 5–10 cent. (2–4 in.) long, 2–4 mm. (1–2 lin.) and more thick, fistulose, rigid, somewhat tough, equal or attenuated upwards when larger, even, smooth, villoso-fibrillose at the base, of the same colour as the pileus. **Gills** adnate, but very broad, hence they appear *broadly emarginate* or sinuate, ventricose, *elegantly connected by a network of veins*, pallid or whitish, the edge, which is of the same colour, quite entire.

The colour of the pileus (which often becomes pale) and stem varies, rose, purple, lilac, bluish-grey, white. The pileus varies membranaceous, for the most part striate. The margin is straight when young, so that it is certainly a species of *Mycena*. Odour weak of radish. One remarkable form is wholly milk-white, with the pileus often yellowish; another is quite snow-white, with ventricose stem. At first sight it is difficult to detect the affinity of these with the common rose-coloured or violet form.

In woods, meadows, &c. Very common. July–Nov.

The taste as well as the smell is that of radish. There are occasionally concentric grooves on the pileus. Spores 6–10 × 4 mk. *B.*; 5 × 3 mk. *W.G.S.* Name—*purus*, pure. *Pers. Syn. p.* 339. *Fr. Monogr.* i. *p.* 201. *Hym. Eur. p.* 133. *Berk. Out. p.* 122. *C. Hbk. n.* 173. *Illust. Pl.* 157. *S. Mycol. Scot. n.* 145. *Hussey* ii. *t.* 49. *Harz. t.* 38. *Fl. Batav. t.* 1060. *Paul. t.* 119. *Fl. Dan. t.* 1612, 1673. *f.* 1 (A. roseus). *Batsch f.* 20. A. collinus *Larbr. t.* 13. *f.* 4. *Bull. t.* 507. *Schæff. t.* 303 (if white-spored).

258. A. pseudo-purus Cke.—**Pileus** scarcely exceeding 2.5 cent. (1 in.) broad, rosy then pale, rather fleshy, campanulate then convex, expanded, obtusely umbonate, smooth, margin obscurely striate. **Stem** 5–7.5 cent. (2–3 in.) long, slender, hollow, rigid, straight, even, naked, at first rosy-white, becoming brown when dry. **Gills** adnate, whitish.

The stem in *A. purus* does not change colour. Spores in *A. purus* shorter and ovoid, whilst in this species they are regularly elliptical. Allied to *A. zephirus*.

Mycena. In woods. Coed Coch, 1880. Autumn.

It is doubtful if this is anything but one of the many forms of *A. purus*. Spores 6 × 4 mk. *W.P.* Name—ψευδός, false. Spurious *A. purus*. *Grevillea, vol.* x. *p.* 147. *C. Illust. Pl.* 158.

259. A. zephirus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *livid-reddish*, white-flesh-colour, the disc occasionally becoming fuscous, not hygrophanous, somewhat membranaceous, diaphanous, campanulate then convex, obtuse, striate to the middle, smooth. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, equal or slightly attenuated upwards, round, *slightly striate*, when young throughout or at least *at the apex white-squamulose*, at length naked, *rufescent*, incurved and woolly at the base. **Gills** *adnate*, somewhat decurrent with a small tooth, broad, but *not ventricose*, at length separating, widely connected by veins, in groups of 2–4, white.

Gregarious, rigid, fragile, inodorous. Its habit is in a measure that of *A. purus*, but it is scarcely rightly allied to that species; rather allied to *A. atro-albus*.

On decayed fir wood. Glamis, 1876. Dec.

Name ζέφυρος, the west wind. Meaning not apparent. *Fr. Monogr.* i. *p.* 202. *Hym. Eur. p.* 133. *Icon. t.* 78. *f.* 6. *B. & Br. n.* 1640. *S. Mycol. Scot. n.* 146. *C. Illust. Pl.* 158.

260. A. Adonis Bull.—**Pileus** 6–8 mm. (3–4 lin.) high and broad, rose-red, &c., somewhat membranaceous, campanulate, very small in proportion to the stem, minutely and almost *obsoletely papillate*, *even*, smooth, slightly pellucid-striate round the margin; flesh very thin, deeper in colour. **Stem** 5 cent. (2 in.) long, 12 mm. (½ in.) thick, fistulose, *filiform*, *flexuous*, equal, even, smooth, *shining white*, pellucid, in no wise viscid. **Gills** *uncinato-adnexed*, ascending, very thin, narrow, flesh-coloured or white.

Much smaller and thinner than *A. purus*, &c. According to Bulliard it is equally variable in colour as *A. purus* (*A. roseus* Bull.) A scarlet form has been noted.

In woods. Uncommon. Oct.–Nov.

White, yellowish, orange, or green. *M.J.B.* Name—*Adonis*, the beloved of Venus. From its beauty. *Bull. t.* 560. *f.* 2. *Fr. Monogr.* i. *p.* 202. *Hym. Eur. p.* 134. *Berk. Out. p.* 123. *B. & Br. n.* 1849 (scarlet form). *C. Hbk. n.* 175. *Illust. Pl.* 185. *S. Mycol. Scot. n.* 147.

261. A. lineatus Bull.—**Pileus** 6–10 mm. (3–5 lin.) high and broad, sometimes larger, commonly *becoming light yellow* but varying whitish, remarkably membranaceous, hood-shaped then campanulate, obtuse, *wholly lineato-sulcate*, smooth. **Stem** 5 cent. (2

in.) long, fistulose, *filiform*, equal, even, smooth, for the most part *becoming light yellow*, towards the base white-villous, somewhat velvety. **Gills** simply *adnate, linear*, somewhat distant, distinct, white, the edge, which is of the same colour, quite entire. Mycena.

Moderately changeable in colour, thin and soft.

Among moss. Foxley. Sept.

Name—*linea*, a line. From the lines on the pileus. *Bull. t.* 522. *f.* 3 (a darker var.) *Fr. Monogr.* i. *p.* 204. *Hym. Eur. p.* 134. *Icon. t.* 78. *f.* 5 (paler var. with flattened pileus). *Grevillea, vol.* viii. *p.* 74. *C. Illust. Pl.* 185. b.

262. A. luteo-albus Bolt.—**Pileus** 6–8 mm. (3–4 lin.) high and broad, yellow, somewhat shining, not becoming pale, membranaceous, acutely campanulate, *umbonate* when expanded, *slightly pellucid-striate* (*not sulcate*), smooth. **Stem** 2.5–5 cent. (1–2 in.) long, fistulose, *filiform*, equal, *somewhat flexuous, tough*, smooth, even, base somewhat fibrillose. **Gills** *adnate, somewhat uncinate*, at first joined behind, broad, alternate, distinct, shining white, edge quite entire.

Very slender, but slightly firm, dry. It seems nearest to *A. Adonis*.

Among moss in fir woods. Uncommon. Aug.–Oct.

Name—*luteus*, yellow; *albus*, white. From the yellow pileus and white gills. *Bolt. t.* 38. *f.* 2. *Fr. Monogr.* i. *p.* 204. *Hym. Eur. p.* 134. *Berk. Out. p.* 123. *C. Hbk. n.* 176. *Illust. Pl.* 159. *S. Mycol. Scot. Supp. Scot. Nat.* July 1883.

263. A. flavo-albus Fr.—**Pileus** 12 mm. (½ in.) and more broad, ochraceous, *light yellow-white* or wholly white, somewhat membranaceous, almost *slightly fleshy*, campanulate then convex, then *flattened*, umbonate, smooth, even (not truly striate), rimosely split when dry. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, fistulose, *slightly rigid, tense and straight*, equal, *not rooted, pellucidly white*, smooth at the base, but *pruinose at the apex*. **Gills** adnexed, soon *separating-free*, at length *plane*, ventricose, *distant*, white.

Growing in troops. Often difficult to distinguish it from *A. lacteus*.

In woods and meadows. Frequent. July–Dec.

Spores 6–8 × 3–4 mk. *B.* Name—*flavus*, light yellow; *albus*, white. *Fr. Monogr.* i. *p.* 205. *Hym. Eur. p.* 135. *Icon. t.* 79. *f.* 5. *B. & Br. n.* 989. *C. Hbk. n.* 177. *Illust. Pl.* 159. *S. Mycol. Scot. n.* 148. A. stem short. A. pumilus *Bull. t.* 260. B. stem longer, filiform.

264. A. lacteus Pers. Wholly milk-white.—**Pileus** as much as 12 mm. (½ in.) broad, membranaceous, campanulate, somewhat

Mycena. umbonate, striate when moist, *even when dry*. **Stem** 7.5 cent. (3 in.) long, fistulose, equal, *somewhat filiform, flexile*, even, smooth, *fibrilloso-rooted at the base*. **Gills** *adnate*, ascending, *crowded*, *narrow*, distinct, alternate.

Always scattered, not cæspitose. Sometimes becoming light-yellowish on the disc. Whitened forms of other species must be carefully separated from it. Var. *pulchella*, *Fr. Icon. t.* 79. *f.* 3; pileus much thinner with a prominent umbo, gills broader at the base, somewhat distant. Typically cæspitose, growing on wood.

In woods, chiefly among pine-leaves. Common. July–Sept.

Spores sphæroid-ellipsoid, 4–5×3–4 mk. *K.*; 3×6 mk. *W.G.S.* Name—*lac*, milk. Milk-white. *Pers. Syn. p.* 394. *Fr. Monogr.* i. *p.* 205. *Hym. Eur. p.* 135. *Berk. Out. p.* 123. *C. Hbk. n.* 178. *Illust. Pl.* 159. *S. Mycol. Scot. n.* 149. *Fl. Dan. t.* 1845. *f.* 1. A. nanus *Bull. t.* 563. *f. N. O. Buxb. C.* iv. *t.* 31. *f.* 3.

III.—Rigipedes. *Stem rigid, &c.*

265. A. cohærens Fr.—**Pileus** about 2.5 cent. (1 in.) broad, *cinnamon* or umber-tawny, becoming pale, slightly fleshy, campanulate, obtuse, *even*, smooth, but soft to the touch and somewhat velvety in appearance, margin straight and at the first adpressed to the stem. **Stems** 10–12.5 cent. (4–5 in.) high, 4 mm. (2 lin.) thick, cæspitoso-fasciculate, fistulose, *very rigid*, *almost horny*, equal, even, smooth, shining, *bay-brown* upwards and whitish at the very apex, date-brown below and *glued together at the base with white* (as if heterogeneous) *villous down*. **Gills** rounded behind, *somewhat free*, *distant*, commonly connected by veins, *very broad*, white then becoming pale.

As regards the stem it approaches the *Marasmii*, *M. alliaceus*, *e.g.*, but the gills are wholly those of *Mycena*, nearest to those of *A. galericulatus*. Pileus striate when damp.

On bramble, among pine-leaves, &c. Batheaston, &c. Feb.

It has much affinity with *A. balaninus* Berk.; but that has the margin of the gills purple. They have, however, the same fulvous bristles on the surface. *B. & Br.* The individual stems rarely come in contact, but are joined together by the shaggy down. Name—*cohæreo*, to stick together. From the stems cohering. *Fr. Monogr.* i. *p.* 207. *Hym. Eur. p.* 137. *Icon. t.* 80. *f.* 1. *B. & Br. n.* 1212, 1929*.

266. A. proliferus Fr.—**Pileus** slightly fleshy, campanulato-expanded, dry, the broad umbo darker (fuscous), slightly striate and at length sulcate or rimosely split at the margin (pale-yellowish or becoming fuscous-tan). **Stem** firm, rigid, *smooth*, *shin-*

ing, slightly striate, rooted. **Gills** adnexed, somewhat distinct, becoming pale-white. Mycena

Inodorous, only at length nauseous. Very much allied to *A. galericulatus;* in habit approaching nearest to *A. cohærens.* The stems are pallid at the apex, but slightly tawny-bay-brown below, and glued together by villous down at the base. There is a *white* form with hyaline stem—on trunks.

In woods, and in gardens near wood. Uncommon. Sept.

Stem frequently proliferous, as in some species of Coprinus. *M. J. B.* Name—*proles,* offspring; *fero,* to bear. From the proliferous stem. *Fr. Hym. Eur. p.* 137. *Monogr.* i. *p.* 207. *C. Illust. Pl.* 235. *Sow. t.* 169. *Berk. Out. p.* 123. *C. Hbk. n.* 179. *S. Mycol. Scot. n.* 150.

267. A. excisus Lasch.—**Pileus** campanulato-convex, slightly fleshy at the disc, somewhat umbonate, *slightly wrinkled,* date-brown, fuscous-blackish. **Stem** firm, tough, rooted, *even, becoming fuscous.* **Gills** ventricose, thick, distant, connected by veins, hoary, *narrowed* behind *as if cut out,* somewhat free.

In mixed wood, on trunks. Glamis, 1875, &c. Sept.–Oct.

Pileus about 5 cent. (2 in.) broad. Stem about 7.5 cent. (3 in.) long, exceedingly rigid and tough. The primary form is cæspitose on trunks of pine; there is a smaller form, on the ground, solitary; pileus membranaceous, *the darker disc wrinkled,* striate at the margin; gills very much narrowed behind, hooked to the stem however by a small tooth, *very distant, becoming glaucous.* In the colour not becoming cinereous and in the nature of the gills it clearly differs from *A. rugosus,* &c. Pilcus 7.5 cent. (3 in.) across, stem 10 cent. (4 in.) high, root 5 cent. (2 in.) long. The specimens were either solitary or subcæspitose; gills purplish, strongly cut out behind. The fig. *Bull. t.* 518 *I.* is more characteristic of the specimens than that in Fries's 'Icones,' taken from smaller and probably more superficial individuals. *B. & Br.* Spores ellipsoid often reniform or spherical, 7–9 mk. *Q.* Name—*excido,* to cut out. From the peculiar character of the gills. *Lasch n.* 538. *Fr. Hym. Eur. p.* 137. *Monogr.* i. *p.* 207. *Icon. t.* 81. *f.* 1. *B. & Br. n.* 1517, 1930. *S. Mycol. Scot. n.* 151. Var. *C. Illust. Pl.* 148.

268. A. psammicola B. & Br.—**Pileus** 6 mm. (3 lin.) broad, brown, becoming paler towards the margin, hygrophanous, somewhat hemispherical, sprinkled with very minute particles, margin striate. **Stem** short, not 12 mm. (6 lin.) long, about 1 m. (½ lin.) thick, solid, firm, rooting, umber downwards, white upwards, wholly white-pulverulent. **Gills** in the form of a segment, shortly adnate, sinuate behind.

Odour strong but not nitrous. A small but well-marked species.

On a sandbank among moss. Addington, 1875. Sept.

Name—ψάμμος, sand. Frequenting sandy places. *B. & Br. n.* 1518. *C. Illust. Pl.* 186.

269. A. rugosus Fr. Typical form.—**Pileus** cinereous but

Mycena. becoming pale, very tough, slightly fleshy at the disc, otherwise membranaceous, campanulate then expanded, at length rather plane, somewhat obtuse, more or less corrugated (*unequal with elevated wrinkles*), always dry, not moist even in rainy weather, striate at the circumference. **Stem** commonly short, remarkably cartilaginous, fistulose, rigid, tough, straight, at length compressed, even, smooth, pallid, with a short oblique strigose root. **Gills** *arcuato-adnate*, with a decurrent tooth, united behind in a collar, somewhat distant, connected by veins, broad, ventricose, white then grey, edge sometimes quite entire, sometimes serrulated.

Always *inodorous*. Formerly connected with *A. galericulatus*. *A. rugosus* is arid, very tough, more rarely cæspitose, the pileus firm, somewhat obtuse, wrinkled but without striæ, the gills arcuato-adnate and uncinate, *white then cinereous*. The genuine *A. galericulatus* is fasciculato-cæspitose, somewhat fragile, the pileus thinner, at first conical and umbonate, striate, without wrinkles, the gills adnate, with a decurrent tooth, white then *flesh-colour*. Between these there is a long series of intermediate forms.

On and near trunks and stumps. Common. July–Nov.

Name—*ruga*, a wrinkle. From the *wrinkled* pileus. *Fr. Monogr.* i. *p.* 208. *Hym. Eur. p.* 138. *B. & Br. n.* 990. *C. Hbk. n.* 180. *Illust. Pl.* 186. b. *S. Mycol. Scot. n.* 152. *Bull. t.* 518. *f. K. M.*

270. A. sudorus Fr. Wholly white.—**Pileus** 2.5 cent. (1 in.) broad, *diaphanous*, somewhat membranaceous, convex, umbonate, often irregular, striate, not wrinkled, *viscous*. **Stem** very long, firm, rooted, even, dry, rather smooth. **Gills** *adnate obtusely and without a small tooth*, broad, at first distinct, rather thick, somewhat distant, white then somewhat flesh-colour.

Commonly solitary. The root is long, blunt, smooth (always ?).

On old stumps. Haywood Forest, 1882. Oct.

Name—*sudor*, sweat. From its viscous pileus. *Fr. Hym. Eur. p.* 138. *C. Illust. Pl.* 206.

271. A. galericulatus Scop.—**Pileus** somewhat membranaceous, conico-campanulate then expanded, striate to the umbo, dry, smooth, (becoming fuscous-livid or changeable in colour). **Stem** rigid, *polished, even, smooth*, fusiform-rooted at the base. **Gills** *adnate, decurrent with a tooth*, connected by veins, whitish and flesh-coloured.

Very protean. Normally cæspitoso-fasciculate, the numerous stems (never viscous) glued together with villous down at the base. But it occurs also solitary, larger, pileus as much as 5 cent. (2 in.) broad, wrinkled-striate. The essential marks by which it is distinguished from *A. rugosus* are these: stem in general thinner, less tense and straight, often curved, more fragile; pileus membranaceous, conico-campanulate, umbonate, striate but not corrugated,

moist in rainy weather; gills *adnate*, with a decurrent tooth, more crowded, *whitish then flesh-coloured*. The colour both of the pileus (normally fuscous then livid) and of the stem (normally becoming livid-fuscous) is much more changeable than that of *A. rugosus*, becoming yellow, rubiginous, &c. It is not so tough and pliant as *A. rugosus*. Forms departing from the type are very numerous; the most beautiful is var. *Calopus* (καλὸς, beautiful; πούς, a foot) with chestnut-coloured stems, united in a fusiform tail. *Fr. Icon. t.* 80. *f.* 2. Forma subterranea: *Buxb. C.* 4. 13. *f.* 2. *Hoffm. Subt. t.* 3. Mycena.

On trunks, stumps, &c. Common. July–Nov.

Inodorous and tasteless. *M. J.B.* Spores sphæroid or subsphæroid, 9–10 × 6–8 mk. *K.*; 8–11 × 4–6 mk. *B.* Name—*galericulum*, a small peaked cap. *Peaked* in shape. *Scop. Carn. p.* 455. *Fr. Hym. Eur. p.* 138. *Monogr.* i. *p.* 209. *Berk. Out. p.* 124. *C. Hbk. n.* 181. *Illust. Pl.* 222. *S. Mycol. Scot. n.* 153. *Schæff. t.* 52. *Bull. t.* 518. *f. C. D—E* (pileus and stem ferruginous-red). *Hoffm. Nom. t.* 4. *f.* 1. *Price f.* 55. *Gonn. & Rab. t.* 7. *f.* 8 (a slender form). *Paul. t.* 122. *f.* 7 (f. 8 differs in the odour). Var. *Calopus B. & Br. n.* 1410. *C. Illust. Pl.* 223.

272. A. polygrammus Bull.—**Pileus** 2.5. cent. (1 in.) and more broad, fuscous, cinereous, livid or becoming light yellow, somewhat membranaceous, conical then campanulate, somewhat umbonate, dry, smooth, striate, margin often toothed. **Stem** 7.5–10 cent. (3–4 in.) and more long, 2 mm. (1 lin.) thick, rigid, tense and straight, fistulose, precisely equal, naked, *longitudinally striato-sulcate*, strigose-rooted at the base, varying of a silvery colour, livid, blue-grey and becoming azure-blue. **Gills** attenuated behind, so as to appear somewhat free, but uncinate, somewhat distant, white then reddish, sometimes serrulated.

Odour, as in all neighbouring species, none. Gregarious rather than cæspitose. It varies with the pileus pruinose, and there is a variety in which the colour of the pileus is beautiful shining white. Very much allied to *A. galericulatus* and *A. rugosus*, but very easily distinguished by its *peculiar bright shining* (obsoletely fibrillose) *longitudinally striato-sulcate stem.*

On stumps, &c. Common. Sept.–Jan.

Spores subsphæroid, 6–9 mk. *K.*; 10–12 × 6–8 mk. *B.*; 9 × 7 mk. *W.G.S.* Name—πολύς, many; γραμμή, a stroke in writing. From the many lines with which it is marked. *Bull. t.* 395. *Fr. Monogr.* i. *p.* 209. *Hym. Eur. p.* 139. *Berk. Out. p.* 124. *C. Hbk. n.* 182. *Illust. Pl.* 223. *S. Mycol. Scot. n.* 154. *Sow. t.* 222. *Fl. Dan. t.* 1615. *f.* 1, 1498. A. chloroticus *Fungh. Linn.* v. *t.* 7. *f.* 1.

273. A. parabolicus Fr.—**Pileus** becoming black at the disc, inclining to violaceous, otherwise becoming pale, whitish, somewhat membranaceous, at first erect and oval, then parabolic, obtuse, never expanded, moist, somewhat shining when dry, smooth, even, striate towards the entire margin. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, fistulose, tense and straight but not very rigid, thickened and bearded-rooted at the base, pale below, dark violaceous above, when young white-mealy, otherwise even,

Mycenæ. smooth, dry. **Gills** simply adnate, ascending, somewhat distant, rarely connected by veins, quite entire, white, somewhat grey at the base.

Stem less rigid than that of *A. galericulatus*. Truly gregarious or cæspitose. Plainly different from *A. atro-cyaneus* Fr. Once found growing on stem of *Aspidium felix-mas*. Lasting during winter.

On rotten wood, especially fir. Uncommon. Sept.–Dec.

Spores 12×6 mk. *B.;* Name—*parabola*. Shaped like a parabola. *Fr. Monogr.* i. *p.* 211. *Hym. Eur. p.* 139. *Icon. t.* 80. *f.* 3. *Berk. Out. p.* 124. *B. & Br. n.* 1640*. *C. Hbk. n.* 183. *Illust. Pl.* 224. *S. Mycol. Scot. n.* 155. *Sow. t.* 165 (pileus pallid).

274. A. tintinnabulum Fr.—**Pileus** 2.5 cent. (1 in.) broad, of one colour (various) for the most part date-brown but becoming pale, somewhat membranaceous, also very tough, *campanulato-convex*, when full grown *rather plane*, scarcely umbonate, wholly *even* and without striæ, *somewhat viscid when moist*. **Stem** short, commonly 2.5 cent. (1 in.) long, not 2 mm. (1 lin.) thick, always even, smooth, pallid, very tough, shortly white-strigose at the base. **Gills** adnate, decurrent with a tooth, *horizontal*, very thin and *crowded*, narrow, becoming pale, at length slightly inclining to flesh-colour.

Colour very variable (though unicolorous) becoming azure-blue, pale yellowish-fuscous, whitish. Commonly gregarious, more rarely cæspitose. Like *A. parabolicus*, &c., very much allied to *A. galericulatus*, but smaller.

On fallen beech-trunks, &c. Glamis, 1876, &c. Oct.–Dec.

Remarkable for its power of living through low temperature. Name—*tintinnabulum*, a bell. From its bell shape. *Fr. Monogr.* i. *p.* 211. *Hym. Eur. p.* 140. *Icon. t.* 80. *f.* 4. *B. & Br. n.* 1746. *S. Mycol. Scot. n.* 156. *C. Illust. Pl.* 224.

IV.—Fragilipedes. *Stem fragile, &c.*

275. A. atro-albus Bolt.—**Pileus** about 2.5 cent. (1 in.) broad, somewhat membranaceous, *parabolico-campanulate*, *obtuse*, the *blackish disc* even, *whitish* and slightly pellucid-striate *round the margin*, not hygrophanous. **Stem** 7.5–10 cent. (3–4 in.) long, almost 4 mm. (2 lin.) thick, remarkably fistulose, *tense and straight*, even, *shining*, *of two colours*, darker at the apex, with a hairy *bulbous-swollen root*. **Gills** free, ventricose, crowded, white then becoming glaucous.

Firmer than the others in this section, but neither rigid nor fusiform-rooted; distinguished from them all by its *swollen*, *inflated*, hairy base. Solitary or gregarious, not cæspitose. Var. *minor*, with stem pruinate at the apex, is not constant.

In mixed woods, among moss. Frequent. July–Nov. Mycena.

Name—*ater*, black; *albus*, white. From the two distinct colours. *Bolt. t.* 137. *Fr. Monogr.* i. *p.* 212. *Hym. Eur. p.* 140. *Berk. Out. p.* 124. *C. Hbk. n.* 184. *S. Mycol. Scot. n.* 157.

276. A. dissiliens Fr.—**Pileus** cinereous-fuscous, whitish round the margin, somewhat membranaceous, acorn-shaped then *conico-campanulate*, not flattened, but revolute at the margin, *sulcate to the middle*, dry. **Stem** short, 5 cent. (2 in.) long, attenuated upwards from the *strigose base*, 2–4 mm. (1–2 lin.) thick, *somewhat incurved*, smooth or pruinate, juiceless, *slightly striate* under a lens, cinereous, *split and breaking asunder into revolute flaps* when compressed or bent. **Gills** *rounded behind*, separating-free, broader in front and running out at the very obtuse truncate apex, soft, watery, whitish or cinereous at the base, the shorter ones crisped.

Very fragile, with a vapid odour (not nitrous). In shady places the pileus is commonly covered over with a fibrillose network and hoary silky pruina. In natural affinity very nearly conjoined with *A. atro-albus*, but in habit it rather resembles *A. galericulatus* or *A. alkalinus*.

On trunks, branches, &c. Frequent. July–Nov.

Name—*dissilio*, to burst asunder. From the manner in which the stem splits. *Fr. Monogr.* i. *p.* 213. *Hym. Eur. p.* 141. *Icon. t.* 81. *f.* 2. *Berk. Out. p.* 125. *C. Hbk. n.* 185. *Illust. Pl.* 285. *a. S. Mycol. Scot. n.* 158. A. pseudoclypeatus *Bolt. t.* 154. A. metatus *Secr. Mich. Gen. t.* 79. *f.* 5. *Paul. t.* 122. *f.* 8.

277. A. atro-cyaneus Batsch.—**Pileus** 6–10 mm. (3–5 lin.) broad, of one colour, fuscous then becoming azure-blue-grey, membranaceous, campanulato-convex, at length flattened, gibbous, with an irregularly shaped, somewhat angular, wrinkled, obtuse, *fuscous blackish umbo*, deeply *sulcate* (even when dry) to the umbo, *sprinkled with white powder which is easily rubbed off*. **Stem** 4–5 cent. (1½–2 in.) long, fistulose, *filiform*, slightly attenuated from the *slightly bulbous base*, almost equal, rigid, fragile, even, smooth, *dark blue-black*. **Gills** joined in a collar, *attenuato-adnate*, ventricose, distinct, distant, white.

Fragile, inodorous. Its affinity is not fully apparent. The figure of Batsch is from a small and imperfectly developed specimen.

In fir woods. Ascot, 1865, &c. Sept.–Nov.

Name—*ater*, black; *cyaneus*, dark-blue. *Batsch f.* 87. *Fr. Monogr.* i. *p.* 203. *Hym. Eur. p.* 141. *B. & Br. n.* 1213, 1640*. *S. Mycol. Scot. n.* 159. *C. Illust. Pl.* 236. *b.*

278. A. pullatus Berk. & Cke.—**Pileus** 18 mm. (¾ in.) broad,

Mycena. at first dark brown with a tinge of purple, disc almost black, membranaceous, campanulate, obtusely umbonate, sulcato-striate to the middle. **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick, fistulose, thickened downwards, of the same colour, whitish floccose at the base, sometimes rooting. **Gills** adnexed, rather broad, scarcely crowded, white.

Spores elliptic, smooth. Odour slightly nitrous. The pileus grows a little paler with age, sometimes with a glaucous bloom. Allied to *A. atro-cyaneus* and *A. leptocephalus*.

On the ground among dead leaves. Chingford, 1882, &c. Oct.–Nov.

Name—*pullus*, dark. From the *blackened* colour. *B. & C. Grevillea, vol.* xi. *p.* 69. *C. Illust. Pl.* 237.

279. A. pauperculus Berk.—**Pileus** 2 mm. (1 lin.) broad, pale ochraceous-white, fleshy, somewhat membranaceous, obtusely conical or hemispherical, minutely innato-fibrillose. **Stem** 1–2.5 cent. (½–1 in.) long, 1 m. (½ lin.) thick, white, curved, rooting, minutely stuffed, smooth except at the villous base, powdered at the top with the sporules, generally thicker below. **Gills** at first free then adnexed, white.

Odour farinaceous. The pileus is in age almost tawny, probably stained by the wood on which it grows. Gills adnexed from the growth of the pileus which is sometimes striate from translucence.

Inside of decayed stumps. Uncommon. Sept.

Name—diminutive of *pauper*, poor. From its insignificant appearance. *Berk. Eng. Fl.* v. *p.* 57. *Out. p.* 125. *C. Hbk. n.* 187. *Illust. Pl.* 236. *Fr. Hym. Eur. p.* 141.

280. A. leptocephalus Pers.—**Pileus** *cinereous*, somewhat membranaceous, campanulato-expanded, repand, umbonate, *sulcate*, *pruinose*, *opaque*. **Stem** equal, slightly striate, opaque, dry. **Gills** *emarginate*, white-cinereous.

Fragile, *strong-smelling*, odour nitrous. Solitary. It agrees with *A. alkalinus* in its *nitrous* odour, but differs in its growth never being cæspitose, in its slightly striate stem, its *pruinose sulcate pileus*, and its *emarginate gills*.

On trunks and the ground. Laxton Park, Northamptonshire.

Spores ellipsoid, 6–8 mk. *Q.* Name—λεπτός, fine; κεφαλή, head. From its delicate pileus. *Pers. Ic. t.* 14. *f.* 4. *Fr. Hym. Eur. p.* 141. *Monogr.* i. *p.* 214. *B. & Br. n.* 1747. *C. Illust. Pl.* 187.

281. A. alkalinus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, cinereous, fuscous, date-brown, inclining to olivaceous, somewhat membranaceous, campanulate, obtusely umbonate, *deeply striate*

when moist, *shining when dry*, never pruinose or when dry rugulose. **Stem** 5–7.5 cent. (2–3 in.) long, slightly firm, *rigid*, but like the whole plant fragile, equal, slippery (not viscous) when moist, shining when dry, smooth, villous at the base, normally *yellow*, but often cinereous. **Gills** adnate, somewhat distant, connected by veins or distinct, slightly ventricose, glaucous-white or dark cinereous and whitish at the edge, sometimes becoming cinereous-yellow. Mycena.

Varying very much in stature. It is readily distinguished by its *strong alkaline odour*, and by its pileus and stem not having a viscid pellicle, from *A. epipterygius*, with which it so agrees in the colours, which vary in each in an analogous manner, that it is difficult to discriminate between the figures of the one and the other, although the plants themselves are not even allied.

On trunks, stumps, &c. Common. May–Nov.

Often tinged everywhere with yellow or pink. Solitary or cæspitose. *M. J. B.* Spores ellipsoid-sphæroid, 8–10 × 6–7 mk. *K.*; 10–12 × 4–6 mk. *B.*; 6 × 8 mk. *W. G. S.* Name — *alkali*. From its alkaline odour. *Fr. Monogr.* i. *p.* 214. *Hym. Eur. p.* 141. *Icon. t.* 81. *f.* 3. *Berk. Out. p.* 125. *C. Hbk. n.* 186. *Illust. Pl.* 187, 225. *S. Mycol. Scot. n.* 160.—*Schæff. t.* 31, 32.

282. A. ammoniacus Fr.—**Pileus** fuscous blackish at the disc, paler round the margin, varying cinereous, somewhat membranaceous, at first acutely conical, papillate, then campanulate, *naked*, *discoid*, *opaque*, striate round the margin. **Stem** 2.5–5 cent. (1–2 in.) long, 1–2 mm. (½–1 lin.) thick, *rooting*, slightly firm, polished, even, *dry*, equal, *whitish*, *not becoming yellow*, strigose at the base. **Gills** simply adnate, linear, distant, distinct, whitish or grey and whitish towards the apex.

Pileus varying in colour and stature. Very much allied to *A. alkalinus*; odour the same, only weaker; growth not cæspitose.

On the ground among grass. Frequent. Sept.–Nov.

Easily distinguished from *A. alkalinus* by its habitat (always on the ground, never on stumps) by its *single* (never cæspitose) growth, and by its stem being *uniformly whitish*, never becoming yellow. Spores 10–13 × 4–6 mk. *B.* Name —from its strong scent of ammonia. *Fr. Monogr.* i. *p.* 215. *Hym. Eur. p.* 142. *B. & Br. n.* 1214. *S. Mycol. Scot. n.* 161. *C. Illust. Pl.* 238. *a.*

283. A. metatus Fr.—**Pileus** 12 mm. (½ in.) or a little more broad, very hygrophanous, cinereous when moist, *opaque and whitish when dry*, somewhat membranaceous, hemispherico-campanulate, obtuse, soft, when moist slightly striate, when dry without striæ, *somewhat silky in appearance* (under a lens at least). **Stem** 5–7.5 cent. (2–3 in.) long, soft-flaccid, even, smooth, whitish-cinereous, fibrillose at the base, but not truly rooted. **Gills** simply adnate, linear, distinct, somewhat distant, whitish.

Mycena.

It varies flesh-colour, livid, &c. Odour weak, alkaline, often obsolete; otherwise it is widely removed from *A. alkalinus*, &c., in the *substance* of the whole plant being *soft becoming flaccid* rather than rigid-fragile, and in the *pileus* being *hygrophanous* and easily changing colour. Gregarious but never cæspitose. There is also a form with the pileus conical then campanulate, velvety under a lens.

In mixed wood among moss. Glamis, 1874, &c. Oct.–Nov.

Spores 8–10 × 4–6 mk. *B.* Name—*metatus*, furnished with a *meta*. Conical. *Fr. Monogr.* i. *p.* 215. *Hym. Eur. p.* 142. *B. & Br. n.* 1519. *S. Mycol. Scot. n.* 162. *C. Illust. Pl.* 238. *b. Paul. t.* 99. *f.* 8 (livid flesh-colour). *Buxb. C.* iv. *t.* 15. *f.* 3.

284. A. plicosus Fr.—**Pileus** 2.5 cent. (1 in.) broad, fuscous-cinereous, opaque when dry, membranaceous, *fragile*, campanulate then expanded, with a slightly fleshy, broad, obtuse, even umbo, otherwise *deeply lineato-sulcate*, almost plicose with the distant furrows, often split. **Stem** 2.5 cent. (1 in.) long, *slightly firm*, fragile however, tense and straight, equal, even, smooth, grey, becoming fuscous, blunt, not rooted, white-villous at the base. **Gills** adnate and without a decurrent tooth, thick, *truly distant*, connected by veins, grey and at length whitish-pruinose.

The stem is by no means soft like that of *A. metatus*.

On the ground in wood. Rare. Killin, 1876. Sept.

Name—*plico*, to fold. From the folds on the pileus. *Fr. Monogr.* i. *p.* 216. *Hym. Eur. p.* 142. *Icon. t.* 81. *f.* 4. *B. & Br. n.* 1641. *S. Mycol. Scot. n.* 163. *C. Illust. Pl.* 285. *b.*

285. A. peltatus Fr.—**Pileus** 18 mm. (¾ in.) broad, black-fuscous when damp, grey when dry, convex when young, *soon exactly plane*, the turned up margin very closely but manifestly striate. *disc slightly fleshy, orbicular, even, plane.* **Stem** 4–5 cent. (1½–2 in.) long, scarcely 2 mm. (1 lin.) thick, equal, rigid, somewhat fragile, often flexuous, even, smooth, naked, livid. **Gills** adnate with a small decurrent tooth, at first crowded, ventricose, but somewhat distant when the pileus is flattened, distinct, grey, paler towards the edge.

The *slightly fleshy centre* is dilated and plane beyond the middle (rather umbilicate than umbonate above the tube of the stem). When dry *the margin is raised all round and becomes black*, presenting the form of a shallow circular vessel. Among mosses the stem is drawn out and villous at the base, but not truly rooted. A most distinguished species, inodorous, growing in troops and densely crowded.

In woods among moss. Rare. Altyre. Aug.-Sept.

Name—*pelta*, a small shield. From its shape. *Fr. Monogr.* i. *p.* 216. *Hym. Eur. p.* 142. *S. Mycol. Scot. n.* 164.

286. A. ætites Fr.—**Pileus** 12 mm. (½ in.) broad, fuscous-grey, becoming pale, membranaceous, campanulate then convex, with a *broad, obtuse, prominent umbo, sulcate to the umbo*, smooth. **Stem** 5 cent. (2 in.) long, fistulose, but often compressed, and then the tube disappears, unequal, fragile, smooth, *shining*, becoming whitish-fuscous. **Gills** adnate, *somewhat uncinate*, a little arcuate, *thin*, at first cohering in the form of a collar, *beautifully reticulated with veins*, somewhat distant, white, grey at the sides. Mycena.

Odour bitterish or obsolete; growing in troops. The pileus is sometimes rufescent as in the figure of Schæffer; when dry the very margin becomes black, not the whole striate part as in *A. peltatus*.

In woods. Ascot, 1873, &c.

Spores 10×6 mk. *B.* Name—*ἀετίτης*, the eagle-stone. Iron ore. From the fuscous-grey colour. *Fr. Monogr.* i. *p.* 217. *Hym. Eur. p.* 143. *Icon. t.* 81. *f.* 5 (rufescent form). *B. & Br. n.* 1411. *S. Mycol. Scot. n.* 165. *C. Illust. Pl.* 188. A. umbelliferus *Schæff. t.* 309.

287. A. stanneus Fr.—**Pileus** 4 cent. (1½ in.) broad, *hygrophanous, grey when moist, when dry tin-colour, silky glistening*, smooth however, membranaceous, campanulate then flattened, fragile, often rimose, striate, smooth. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, but compressed to 4 mm. (2 lin.) in breadth, narrowly fistulose, slightly rigid, *even, shining*, smooth, becoming pale, not very fragile. **Gills** adnate, with a *small decurrent tooth*, scarcely crowded, *connected by veins*, whitish grey.

Inodorous. Scattered or loosely gregarious. It differs abundantly from *A. metatus* in its rigidity, in its glistening pileus when dry, and in its whole nature; it may rather be compared with *A. collariatus* among *Filipedes*.

In wood among grass. Cabalva. Oct.

Spores 8–10×4 mk. *B.* Name—*stannum*, tin. From the colour. *Fr. Monogr.* i. *p.* 217. *Hym. Eur. p.* 143. *Icon. t.* 82. *f.* 2. *Grevillea, vol.* viii. *p.* 74. *C. Illust. Pl.* 188.

288. A. vitreus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *opaque*, fuscous then livid or bluish-grey, *wholly membranaceous*, very thin, campanulate, obtuse, wholly *lineato-striate*, smooth, dry, *margin entire, naked*. **Stem** 5–10 cent. (2–4 in.) long, 1 m. (½ lin.) thick, remarkably fistulose, equal, smooth, *glistening, striate under a lens*, fibrillose at the base. **Gills** *adnate*, linear, *distinct*, thin, *somewhat distant*, whitish, of the same colour at the edge.

It has *no umbo or slightly fleshy disc*. The whole plant *very fragile*, juiceless, inodorous. Elegant, growing in troops. Among mosses the stem is extended at the base and spuriously rooted. This and *A. tenuis* differ from the rest in the substance being much thinner.

Mycena. In woods. Uncommon. Sept.–Oct.

Name—*vitrum*, glass. From the glassy appearance. *Fr. Monogr.* i. *p.* 218. *Hym. Eur. p.* 143. *Icon. t.* 82. *f.* 1. *B. & Br. n.* 1111. *C. Hbk. n.* 188. *Illust. Pl.* 160. *S. Mycol. Scot. n.* 166.

289. A. tenuis Bolt.—**Pileus** 12 mm. (½ in.) or a little more broad, hyaline or becoming fuscous-white, very thinly membranaceous, campanulato-convex, obtuse, *lineato-striate*, smooth, watery, *the slight margin beautifully fringed in a crenate manner*, as if appendiculate with the fragments of a veil. **Stem** tall, 7.5 cent. (3 in.) and more long, scarcely 2 mm. (1 lin.) thick, very tense and straight, even, smooth, watery, hyaline-white, or here and there becoming yellow at the base. **Gills** adnate, with a small decurrent tooth which is often obsolete, distant, distinct, linear, rather thick comparatively, soft, whitish.

Wholly watery, very delicate, *very fragile*, wholly wavering. It differs from all other species in the tube of the stem which is *very thin, membranaceous*, consisting as it were only of the cuticle of the foregoing species, hence pellucid. It varies with the pileus conical, lineato-striate to the prominent umbo, when dry even and becoming pale.

In shady moist woods. Rare. Sept.

Spores 3×4 mk. *W.G.S.* Name—*tenuis*, thin. Delicate. *Bolt. t.* 37. *Fr. Monogr.* i. *p.* 218. *Hym. Eur. p.* 143. *Berk. Out. p.* 125. *C. Hbk. n.* 189. *Illust. Pl.* 160. *S. Mycol. Scot. n.* 167.

V.—Filipedes. *Stem filiform, &c.*

290. A. filopes Bull.—**Pileus** about 12 mm. (½ in.) broad, livid-fuscous, rarely whitish, remarkably membranaceous, conical then campanulate, obtuse, striate, dry, smooth. **Stem** 7.5 cent. (3 in.) and more long, fistulose, equal, wholly *filiform*, tense and straight, *flaccid*, but *not very tough*, even, *smooth, rooting with a long pilose tail*, when in vigour filled with a watery juice. **Gills** *free* or only reaching the stem, ventricose or *lanceolate*, crowded, white.

The gills are at length grey at the base as is usual in this group. More fragile than the rest. Elegant in appearance where it grows in troops.

In woods, among leaves, &c. Frequent. Aug.–Nov.

Name—*filum*, a thread; *pes*, a foot. With thread-like stem. *Bull. t.* 320. *Fr. Monogr.* i. *p.* 219. *Hym. Eur. p.* 144. *Berk. Out. p.* 126. *C. Hbk. n.* 191. *Illust. Pl.* 161. *S. Mycol. Scot. n.* 168. *Hoffm. Nom. t.* 6. *f.* 1. A. pilosus *Batsch f.* 2.

291. A. amictus Fr.—**Pileus** 6–12 mm. (3–6 lin.) broad, varying in colour, green, bluish-grey, livid, but not pure, membran-

aceous, conico-campanulate, but scarcely umbonate, slightly pel- Mycena
lucid-striate to the middle, also pruinate when in full vigour, but the pruina easily separates. **Stem** about 7.5 cent. (3 in.) long, thinly fistulose, filiform, equal, *flexile, wholly villous-pulverulent*, livid, but the *very long tortuous* root is almost *smooth*. **Gills** *free*, or only reaching the stem, *linear, crowded*, narrow, grey, the edge paler.

Gregarious, inodorous, very much *tougher* than *A. filopes*. The floccoso-pruinose covering seems a species of veil.

Among leaves. Glamis, 1877, &c. Sept.

Spores 8 × 4 mk. *B.* Name—*amicio*, to clothe. From the covering both on pileus and stem. *Fr. Monogr.* i. *p.* 219. *Hym. Eur. p.* 144. *Icon. t.* 82. *f.* 3. *B. & Br. n.* 1642. *S. Mycol. Scot. n.* 169. *C. Illust. Pl.* 286. *Buxb. Cent.* iv. *t.* 31. *f.* 2.

292. A. debilis Fr.—**Pileus** 4–6 mm. (2–3 lin.) broad, whitish livid, somewhat flesh-colour, &c., becoming fuscous when dry, membranaceous, *very thin*, campanulate then convex, obtuse, striate when moist, *when dry* even, but *withering and corrugated*. **Stem** 5–10 cent. (2–4 in.) long, slightly fistulose, *capillary-filiform*, *weak* and *lax*, of the same colour as the pileus, fibrillose at the base. **Gills** *broadly adnate*, rather broad, distinct, somewhat distant, whitish, edge of the same colour.

Gregarious; soon withering in fine weather. In this natural habit it departs very widely from all the others in this group. It is in reality intruded among species which are not allied, on account of its filiform, juiceless, but flaccid rather than flexile stem. It is readily distinguished from *A. sanguinolentus*, which is very like it, by its gills being of the same colour at the edge. The umbo, if present, is obtuse.

In chestnut wood. Wrotham, Kent, 1875. Oct.

Name—*debilis*, weak. From the flaccid stem. *Fr. Monogr.* i. *p.* 222. *Hym. Eur. p.* 145. *Icon. t.* 82. *f.* 4. *B. & Br. n.* 1521. *Bull. t.* 518. *f. P. C. Illust. Pl.* 189. A. capillaris *Fl. Dan. t.* 1670. *f.* 1.

293. A. vitilis Fr.—**Pileus** 6–8 mm. (3–4 lin.) broad, fuscous or livid, *becoming pale* or whitish, membranaceous, *conical* then campanulate, *papillate*, not wrinkled, but striate to the middle, dry, smooth. **Stem** 7.5–15 cent. (3–6 in.) long, thinly fistulose, *filiform*, rooted, *tense and straight*, rigid but *tough*, easily flexile, even, smooth, juiceless, shining, livid. **Gills** *attenuato-adnate*, and without a decurrent tooth, ascending, *linear*, thin, distinct, whitish or grey.

The pileus is deeply striate when moist, becoming even when dry. The slightly fleshy papilla often vanishing. The gills sometimes slightly sinuate, or, in a variation in which the pileus is fuscous, dark cinereous with a whitish

Mycena. edge. Solitary or gregarious, never cæspitose. In nature and natural structure it approaches *A. galericulatus*, so that it was taken (*Bull. t.* 518. *f.* e.) for a slender variety of that species. Otherwise very variable, inodorous, persistent, not withering when dry. It varies with the pileus obtuse, wholly lineato-striate, &c.

In mixed woods among leaves. Frequent. Sept.–Nov.

The gills vary a good deal in colour, and are sometimes very dark. *M. J. B.* Name—*vitilis*, plaited. From the deep striæ. *Fr. Monogr.* i. *p.* 221. *Hym. Eur. p.* 145. *Berk. Out. p.* 126. *C. Hbk. n.* 192. *Illust. Pl.* 189. *S. Mycol. Scot. n.* 170. *Price f.* 9. *Bull. t.* 518. *f. O.* A. tenuis *Sow. t.* 385. *f.* 5.

294. A. collariatus Fr.—**Pileus** 12 mm. (½ in.) and more broad, typically fuscous, but becoming pale, commonly grey-whitish, becoming fuscous only at the disc, membranaceous, campanulate then *convex*, somewhat umbonate, striate, when dry rigid, smooth, *not soft nor slightly silky.* **Stem** about 5 cent. (2 in.) long, fistulose, *filiform* but almost 2 mm. (1 lin.) thick, *tough*, dry, smooth, even or slightly striate under a lens, becoming pale. **Gills** adnate, *joined in a collar* behind, thin, crowded, hoary-*whitish, or obsoletely flesh-coloured.*

The gills are somewhat distant when the pileus is expanded. There is not a separate collar as in *Marasmius rotula*: the gills are only joined in the form of a collar, and remain *cohering* when they separate from the stem. As *A. vitilis* approaches *A. galericulatus*, this approaches *A. stanneus*, and without having both species in hand it is difficult to distinguish them.

In wood, among oak-bark. Glamis, 1874. Nov.

In my specimens the pileus had a decided tinge of pink, like *A. Adonis*, but differing, as Berkeley remarked, in the decidedly striato-sulcate pileus. The attachment of the gills is very distinctive. Spores 8–10 × 4–6 mk. *B.* Name—*collare*, a collar. From the union of the gills in a collar. *Fr. Monogr.* i. *p.* 222. *Hym. Eur. p.* 146. *Icon. t.* 82. *f.* 5. *B. & Br. n.* 1520. *S. Mycol. Scot. n.* 171. *C. Illust. Pl.* 189.

295. A. speireus Fr.—**Pileus** 4–8 mm. (2–4 lin.) broad, membranaceous, conico-convex then *plane*, at length *depressed in the centre*, the darker *umbo fuscous*, otherwise pallid cinereous or whitish, variegated with fuscous striæ, smooth, sometimes pruinate. **Stem** about 5 cent. (2 in.) long, 1 m. (½ lin.) thick, fistulose, very *tough*, *filiform*, equal, smooth, *shining*, *white*, becoming fuscous at the base, *ending with a tail-like fibrillose root.* **Gills** at first adnate, then when the pileus is depressed deeply *decurrent*, *distant*, the alternate ones shorter, *shining white.*

The stem is not widened into the pileus as in the *Mycenarian Omphaliæ.* In troops but not cæspitose; appearing in very rainy weather.

On mossy trunks in mixed wood. Uncommon. Aug.–Oct.

Even when the pileus is most depressed in the centre the darker umbo re-

mains very marked. This is well defined in the figure and letterpress of Mycena.
'Icones'; "*the darker papillate disc* at length depressed." Name—σπεῖρα, a coil. From the twisted root. *Fr. Monogr.* i. *p.* 191. *Hym. Eur. p.* 147. *Icon. t.* 78. *f.* 2. *Berk. Out. p.* 126. *C. Hbk. n.* 193. *Illust. Pl.* 190. *S. Mycol. Scot. n.* 172.

296. A. tenellus Fr. Wholly white or livid-flesh-colour.—**Pileus** 12 mm. (½ in.) broad, membranaceous, very tender, campanulato-convex, obtuse, *pellucid*, slightly striate at the margin. **Stem** capillary, smooth, soft, villous at the base. **Gills** uncinate, very thin, crowded, *white then flesh-colour.*

Cæspitose.

On decayed trees. Caen Wood.

Name—*tener*, tender. Diminutive. Very tender. *Fr. Hym. Eur. p.* 147. *C. Illust. Pl.* 190.—*Raii Syn. t.* 1. *f.* 2.

297. A. acicula Schæff.—**Pileus** 2–4 mm. (1–2 lin.) broad, *vermilion-orange*, membranaceous, campanulate then convex, *with a very small slightly fleshy umbo*, striate, smooth, shining. **Stem** 4–5 cent. (1½–2 in.) long, delicately fistulose, rooted, wholly *bristle-like*, very smooth (with exception of the rooting base), bright shining, *intensely yellow*. **Gills** *rounded-adnexed*, almost free, comparatively broad, *ventricose*, somewhat ovate, distant, the alternate ones shorter, yellow, whitish at the edge or wholly white.

Stem somewhat pruinose at the apex. Although *very tender* it is very *tough* and *persistent.*

On leaves, twigs, &c. Frequent. July–Oct.

Spores 8–10 × 2–4 mk. *B.* Name—*acicula*, a small pin. *Schæff. t.* 222. *Fr. Monogr.* i. *p.* 223. *Hym. Eur. p.* 147. *Icon. t.* 85. *f.* 3. *Berk. Out. p.* 127. *C. Hbk. n.* 194. *Illust. Pl.* 190. *S. Mycol. Scot. n.* 173. B. young, *with white gills. Lasch.* A. clavus *Bolt. t.* 39. *B.*

VI.—Lactipedes. *Stem milky, &c.*

298. A. hæmatopus Pers.—**Pileus** about 2.5 cent. (1 in.) broad, white-flesh-colour, fleshy-membranaceous, *slightly fleshy* chiefly *at the disc*, conical then campanulate, *obtuse*, nay convex and spuriously umbonate, naked, even or slightly striate at the margin, which is *at the first elegantly denticulate.* **Stem** 5–10 cent. (2–4 in.) long, 2 mm. (1 lin.) and more thick, remarkably fistulose, rigid, normally everywhere *pulverulent with whitish delicate villous down*, sometimes, however, denuded of it. **Gills** adnate, often with a small decurrent tooth, the alternate ones shorter, in

Mycena.

front disappearing short of the slight margin of the pileus, whitish and *wholly of the same colour at the edge.*

Cæspitose (very many of the stems conjoined and strigose at the base), firm, stature almost that of *A. galericulatus*, wholly *abounding with dark blood-coloured juice.*

On stumps. Frequent. Sept.

Spores sphæroid-ellipsoid, 10×6–7 mk. *K.* Name—αἷμα, blood; πούς, a foot. From the juice of the stem. *Pers. Obs.* 2. *p.* 56. *Syn. p.* 379. *Fr. Monogr.* i. *p.* 224. *Hym. Eur. p.* 148. *Icon. t.* 83. *f.* 1. *B. & Br. n.* 991. *C. Hbk. n.* 195. *Illust. Pl.* 162. *S. Mycol. Scot. n.* 174.

299. A. cruentus Fr.—**Pileus** 6–10 mm. (3–5 lin.) broad, bay-brown or *fuscous then red*, becoming pale, somewhat membranaceous, conical then campanulate, obtuse, striate, smooth, *margin quite entire.* **Stem** 5–7.5 cent. (2–3 in.) long, scarcely 2 mm. (1 lin.) thick, fistulose, slightly firm, tense and straight, even, *smooth* (never villous-pulverulent), paler than the pileus, villous-rooted at the base, *distilling a dark-red juice when broken.* **Gills** wholly adnate, crowded, linear, whitish, *the edge, which is quite entire, of the same colour.*

Odour not remarkable. Always *solitary*; not flaccid. Intermediate between *A. hæmatopus* and *A. sanguinolentus.*

In pine woods. Rare. Sept.

Margin of pileus inflexed; substance at first rather thick in proportion; stem rigid, strigose at the base; gills obtuse in front, shortly adnate. *B. & Br.* Spores 6–8×4 mk. *B.* Name—*cruor*, gore. From the red juice. *Fr. Monogr.* i. *p.* 225. *Hym. Eur. p.* 148. *Icon. t.* 83. *f.* 2. *Berk. Out. p.* 127. *B. & Br. n.* 992. *C. Hbk. n.* 196. *Illust. Pl.* 162. *S. Mycol. Scot. n.* 175. *Sow. t.* 385. *f.* 2, 3.

300. A. sanguinolentus A. & S.—**Pileus** 4–6 mm. (2–3 lin.) broad, pallid reddish, becoming fuscous, umbo and striæ commonly darker, *very thinly membranaceous*, campanulato-convex or hemispherical, papillate, smooth, striate to the umbo. **Stem** 5–7.5 cent. (2–3 in.) long, fistulose, weak, *flaccid*, almost capillary, moderately tough, naked, smooth, pallid, somewhat fibrillose at the base. **Gills** adnate, linear, somewhat distant, the alternate ones shorter, paler than the pileus, *the edge black-purple.*

The stem is elongated among Sphagna to as much as 10–12.5 cent. (4–5 in.). Gregarious. So very *tender and easily withering* that it is commonly overlooked. *The thinnest* of this group and inclining to *Calodontes* in the edge of the gills being black-purple, but placed in this section on account of the *stem distilling a pale-reddish juice.* The edge of the gills always safely distinguishes it from *A. debilis* to which it is very like.

In woods among leaves especially fir. Common. July–Oct.

Spores sphæroid-ellipsoid, irregular, 8–9 × 6–7 mk. *K.*; irregularly toothed, roundish, 7–9 × 5–8 mk. *B.*; 6 × 8 mk. *W.G.S.* Name—*sanguis*, blood. From the juice. *Alb. & Schw. p.* 196. *Fr. Monogr.* i. *p.* 225. *Hym. Eur. p.* 148. *Icon. t.* 83. *f.* 3. *Berk. Out. p.* 127. *C. Hbk. n.* 197. *Illust. Pl.* 163. *S. Mycol. Scot. n.* 176. *Gonn. & Rab. t.* 7. *f.* 10.—*Bull. t.* 518. *f. P. right hand.* Mycena.

301. A. crocatus Schrad.—**Pileus** 1–2.5 cent. (½–1 in.) broad, olivaceous, cinereous or shining white, somewhat membranaceous, conical then campanulate, the even umbonate disc reddish, striate towards the *quite entire margin.* **Stem** 7.5–12.5 cent. (3–5 in.) long, slightly attenuated from the base, about 2 mm. (1 lin.) thick, tense and straight, even, smooth, *saffron-blood-colour*, especially towards the rooting fibrillose base. **Gills** attenuato-adnexed, somewhat distant, broader in front, somewhat ventricose, white.

Quite *inodorous*, scattered. Readily distinguished by its *saffron-blood juice.* The base of the stem creeps among leaves. There is a smaller variety on beech.

In woods among leaves. Uncommon.

Name—*crocus*, saffron. From the juice. *Schrad.—Fr. Monogr.* i. *p.* 226. *Hym. Eur. p.* 148. *Berk. Out. p.* 127. *C. Hbk. n.* 198. *Illust. Pl.* 163. *S. Mycol. Scot. n.* 177. *Fl. Dan. t.* 1550. *f.* 1, 2024. *f.* 1. *Knapp. Journ. Bot. t.* 7.

302. A. chelidonius Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, becoming yellow-flesh-colour, somewhat membranaceous, campanulate then convex, obtuse, smooth, pellucid-striate when moist, even and opaque when dry, margin quite entire. **Stem** 4–5 cent. (1½–2 in.) long, almost 2 mm. (1 lin.) thick, fistulose, slightly firm, even, smooth, becoming yellow, *sparingly filled with yellow juice*, rooting and villous at the base. **Gills** adnate, somewhat distant, distinct, whitish or becoming yellow-white.

Somewhat cæspitose, with the habit of yellowish forms of *A. alkalinus* to which it is allied. Odour somewhat alkaline.

On stumps of beech. Rare.

Name—*chelidonium*, the name of a flowering plant (Celandine) with yellow juice. The name is derived from χελιδών, a swallow; the swallow arriving about the time the plant flowers. The fungus is so named from its yellow milk. *Fr. Monogr.* i. *p.* 226. *Hym. Eur. p.* 148. *Berk. Out. p.* 127. *C. Hbk. n.* 199. *Illust. Pl.* 207 *a.* A. pumilus *Sow. t.* 385. *f.* 4.

303. A. galopus Pers.—**Pileus** 6–10 mm. (3–5 lin.) broad, at first becoming black, then cinereous, varying white with a blackish papilla, membranaceous, conical then campanulate, somewhat umbonate, striate, naked or pruinate. **Stem** 5–7.5 cent. (2–3 in.) long, fistulose, slender, somewhat fragile, even, smooth or pruinate, cinereous-blackish, paler upwards, somewhat thick-

Mycena. ened villous and rooting at the base. **Gills** attenuated behind, slightly adnexed, broader towards the margin of the pileus, white, sometimes becoming glaucous.

The stem is elongated among the taller mosses. Readily distinguished from all others by the *plentiful white juice of the stem.* When old and juiceless it is easily confounded with *A. filopes.* Growing in troops.

In woods, among leaves. Common. July–Oct.

Name—γάλα, milk; πούς, a foot. From the white juice of the stem. *Pers.*—*Fr. Monogr.* i. *p.* 226. *Hym. Eur. p.* 149. *Berk. Out. p.* 128. *t.* 6. *f.* 2. *C. Hbk. n.* 200. *Illust. Pl.* 207. *S. Mycol. Scot. n.* 178. *Fl. Dan. t.* 1550. *f.* 2. *Gonn. & Rab. t.* 7. *f.* 9. *Batt. t.* 28. Q.

304. A. leucogalus Cke.—**Pileus** 12 mm. (½ in.) broad and high, purple brown, paler at the margin, becoming black at the umbo, membranaceous, campanulate, umbonate, *sulcate* to the middle; milk white, plentiful. **Stem** 7.5 cent. (3 in.) long, fistulose, slender, a little thickened downwards, of the same colour as the pileus, whitish tomentose at the base. **Gills** adnate with a small decurrent tooth, rather distant, connected by veins, cinereous.

Pileus not exceeding an inch. Forming dense cæspitose tufts.

On rotten stump. Kew, 1883. Oct.

Name—λευκός, white; γάλα, milk. *Grevillea, vol.* xii. *p.* 41.

VII.—Glutinipedes. *Stem glutinous, &c.*

305. A. epipterygius Scop.—**Pileus** 1–2.5 cent. (½–1 in.) and more broad, commonly cinereous, membranaceous, campanulate and at length more expanded, obtuse, never depressed, striate, covered over with a pellicle which, when the plant is moist, is very viscous, and in every state easily separable, the margin when young sometimes elegantly denticulate. **Stem** 5–7.5 cent. (2–3 in.) and more long, about 2 mm. (1 lin.) thick, fistulose, tough, often flexuous, rooted and fibrillose at the base, even, viscous, for the most part yellow, but varying cinereous, pallid, whitish. **Gills** decurrent with a tooth, thin, whitish, cinereous, bluish-grey, rufescent.

A very changeable species, chiefly as regards colour; pileus often rufescent when older. Sometimes solitary, sometimes gregarious or cæspitose, inodorous. Easily distinguished by the *viscous pellicle being easily separable* both from the stem and *the pileus.*

In woods, among grass, &c. Common. Aug.–Nov.

The stem is generally paler in the middle. Spores ellipsoid, 8–10 × 4–5 mk. *K.*; 6–10 × 4–5 mk. *B.* Name—ἐπί, upon; πτερύγιον, a membrane. From

the pellicle. *Scop. p.* 453. *Fr. Monogr.* i. *p.* 227. *Hym. Eur. p.* 149. *Berk. Out. p.* 128. *C. Hbk. n.* 201. *Illust. Pl.* 208. *S. Mycol. Scot. n.* 179. *Sow. t.* 92. *Fl. Dan. t.* 2078. *f.* 2. Mycena.

306. A. clavicularis Fr.—**Pileus** 12 mm. (½ in.) and more broad, whitish, light yellowish, becoming fuscous, membranaceous, convexo-expanded, striate, *dry, without a pellicle, at length depressed at the disc.* **Stem** 5–7.5 cent. (2–3 in.) long, fistulose, tough, even, smooth, not very *viscous*, whitish, fibrillose at the base. **Gills** *adnate, somewhat decurrent* when the pileus is depressed, often connected by veins, whitish.

A remarkable species, related to *A. epipterygius*, but almost dry; the stem is viscid only in wet weather. There is a thinner variety with filiform stem.

In grassy ground in fir woods. Glamis, 1876, &c. Oct.

Name—*clavus*, a nail. Like a small nail in shape. *Fr. Monogr.* i. *p.* 228. *Hym. Eur. p.* 149. *Icon. t.* 84. *f.* 1. *B. & Br. n.* 1749. *S. Mycol. Scot. n.* 180. *Bull. t.* 80. *C. Illust. Pl.* 208.

307. A. pelliculosus Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, fuscous then grey, membranaceous, campanulate then convex, *obtuse, lineato-striate* to the middle, *with a viscid separable pellicle.* **Stem** curt, 2.5 cent. (1 in.) or little more long, fistulose, rigid, tense and straight, somewhat thickened at the apex, smooth, viscid, white-livid, becoming fuscous. **Gills** *adnate*, alternate, very distant, almost *in the form of folds*, but wholly simple and *not connected by veins*, joined in a collar behind and decurrent, becoming glaucous.

The pileus is *covered with a viscous separable pellicle* like *A. epipterygius*; but it is very easily distinguished from that species by the *distant, fold-like gills.* The gills are much more decurrent than those of *A. epipterygius.* Growing in troops during very rainy weather.

On heaths and in heathy woods. Frequent. Sept.–Oct.

Cinereous. Resembling *A. galericulatus* rather than *A. epipterygius. M. J. B.* Name—*pellicula*, a thin membrane. Furnished with a pellicle. *Fr. Monogr.* i. *p.* 228. *Hym. Eur. p.* 149. *Berk. Out. p.* 128. *C. Hbk. n.* 202. *Illust. Pl.* 191. *S. Mycol. Scot. n.* 181.

308. A. vulgaris Pers.—**Pileus** 6 mm. (3 lin.) and more broad, fuscous or cinereous, somewhat membranaceous, campanulate then convex, then *depressed at the disc, papillate*, slightly striate, *slightly viscid.* **Stem** 2.5–5 cent. (1–2 in.) long, commonly 2 mm. (1 lin.) thick, fistulose, *very viscous, cinereous*, rooting and white-strigose at the base. **Gills** at first uncinato-adfixed, then *decurrent*, thin, white.

Gregarious, inodorous, changeable. The pileus is often rufescent when

Mycena. old; it varies whitish, with the papilla fuscous. The stem is elongated and filiform among the taller mosses.

In fir woods, &c., among moss. Common. July–Nov.

Spores ellipsoid, 3–4 × 2 mk. *K.*; 10 × 4 mk. *W.P.* Name—*vulgaris*, common. *Pers. Syn. p.* 394. *Ic. pict. t.* 19. *f.* 3. *Fr. Monogr.* i. *p.* 228. *Hym. Eur. p.* 150. *Berk. Out. p.* 128. *t.* 6. *f.* 4. *C. Hbk. n.* 203. *Illust. Pl.* 191. *b. S. Mycol. Scot. n.* 182. *Quel. t.* 4. *f.* 7. *Fl. Dan. t.* 1678. *f.* 2 (incorrect).

309. A. citrinellus Pers.—**Pileus** 4–6 mm. (2–3 lin.) broad, *lemon-yellow*, but often darker at the disc, membranaceous, campanulate then hemispherical and flattened, but not umbilicato-depressed, striate, scarcely viscous. **Stem** 2.5 cent. (1 in.) long, fistulose, *filiform*, smooth, viscid in wet weather at least, lemon-yellow, villous at the base, but scarcely rooting. **Gills** uncinate, alternate, distant, moderately broad, shining white.

Pileus becoming pale. Gregarious; *smaller and less viscid* than *A. vulgaris*. Var. *candida*, sulphur-yellow when dry.

In pine woods, &c. Uncommon. Oct.

Persoon's plant grows on the ground. The form described by Fries in 'Icones' is smaller and grows on wood. Spores 7 × 8 mk. *W.G.S.* Name—*citrus*, lemon. Lemon-yellow. *Pers. Ic. t.* 11. *f.* 3. *Fr. Monogr.* i. *p.* 229. *Hym. Eur. p.* 150. *Icon. t.* 84. *f.* 4. *B. & Br. n.* 1215. *C. Hbk. n.* 204. *Illust. Pl.* 248. *Fl. Dan. t.* 1614. *f.* 1. *Batsch f.* 88.

310. A. plicato-crenatus Fr.—**Pileus** 6 mm. (3 lin.) broad, but higher, white then becoming light yellow, very thin, conical, somewhat umbonate, remarkably *sulcato-plicate* and crenate, without a separable pellicle. **Stem** 4 cent. (1½ in.) long, filiform, obsoletely or scarcely fistulose from its thinness, pallid reddish, internally becoming light yellow, smooth, viscid. **Gills** ascending, narrow and attenuated behind, adnate, with a small decurrent tooth, distant, white.

Allied to the very protean *A. epipterygius*, but thinner, so that the pileus is deeply plicate like that of *Marasmius rotula*, and the margin remarkably crenate. In its very thin plicato-crenate pileus it approaches *A. roridus*.

Among heath. Coed Coch, 1878. Oct.

Name—*plica*, a fold; *crena*, a notch. Plicate and crenate. *Fr. Monogr.* ii. *p.* 294. *Hym. Eur. p.* 150. *Icon. t.* 84. *f.* 2. *B. & Br. n.* 1748. *C. Illust. Pl.* 248. *b.*

311. A. roridus Fr. Wholly shining white, but varying with the pileus becoming yellow.—**Pileus** 4–6 mm. (2–3 lin.) broad, very thin, membranaceous, conico-campanulate then convex, *dry*, sulcate when moist, becoming even when dry. **Stem** 1–2.5 cent. (½–1 in.) and more long, obsoletely fistulose on account of its

extreme thinness, *capillary*, *covered over with thick, fluid*, shining, hyaline *gluten*, *inserted* at the base (not rooted), smooth. **Gills** arcuate, decurrent, distant, the alternate ones shorter. Mycena.

Not allied to any; among the smallest of *Mycenæ*, but of all of them the most extraordinary on account of the *thick* (1 lin.) fluid and pellucid *jelly*, with which *the capillary stem is everywhere covered over*, or in which it is as it were immersed.

On dead sticks, twigs, &c. Rare. Sept.

Various in colour, but generally white with a slight cinereous tinge. After abundant rain the dripping stem is very striking. *M.J.B.* Spores ellipsoid or oblong-ellipsoid, 8–11 × 4 mk. *K.* Name—*roridus*, wet with dew. Dripping. *Fr. Monogr.* i. *p.* 229. *Hym. Eur. p.* 150. *Berk. Out. p.* 128. *C. Hbk. n.* 205. *Illust. Pl.* 248. *S. Mycol. Scot. n.* 183. *Quel. t.* 4. *f.* 4.

VIII.—Basipedes. *Stem dilated at the base, &c.*

312. A. stylobates Pers.—**Pileus** 4–6 mm. (2–3 lin.) broad, commonly white, membranaceous, campanulate, at length convex, obtuse, pellucid-striate, dry, *commonly sprinkled with spreading hairs*. **Stem** 2.5–5 cent. (1–2 in.) long, fistulose, *filiform*, sometimes almost capillary, equal, naked, dry, *seated upon an orbicular, plane, striate*, slightly villous *base*. **Gills** *free, wholly separate behind, ventricose*, broader in front, distant, alternate.

Very tender, fragile; commonly wholly white, but varying grey, becoming azure-blue. Always solitary and sporadic. In close places the stem is 7.5–10 cent. (3–4 in.) long and flexuous (*Hoffm. t.* 6. *f.* 2).

On twigs, leaves, &c. Uncommon. Oct.

Spores 2 × 3 mk. *W.G.S.* Name—στῦλος, a pillar; βάσις, a base. From the way in which the stem rests upon the disc-like base. *Pers. Syn. t.* 5. *f.* 4. *Fr. Monogr.* i. *p.* 230. *Hym. Eur. p.* 150. *Berk. Out. p.* 129. *t.* 6. *f.* 5. *C. Hbk. n.* 206. *Illust. Pl.* 249. *S. Mycol. Scot. n.* 184. A. shining white.—B. slightly grey. *Sturm. Deutsch. t.* 29. C. becoming azure-blue. *Fl. Dan. t.* 2025. *f.* 3.—*Hoffm. t.* 6. *f.* 2.

313. A. tenerrimus Berk. Pure white.—**Pileus** 2–3 mm. (1–1½ lin.) broad, convex, not pilose, but frosted with minute granules. **Stem** 2.5 cent. (1 in.) long, scarcely ⅓ lin. thick, fistulose, flexuous, pilose, adhering by a minute pubescent disc, which is not the least striate. **Gills** free, ventricose, distant, unequal.

A very minute, but distinct species. Very delicate, tender, and easily injured. Gregarious. Disc not striate.

On fir-cones, sticks, &c. Uncommon. Aug.–Dec.

Spores round. Name—*tener*, tender. Very tender. *Berk. Eng. Fl.* v *p.*

Mycena. 61. *Out. p.* 129. *t.* 6. *f.* 6. *Fr. Hym. Eur. p.* 151. *C. Hbk. n.* 207. *Illust. Pl.* 249. *b. S. Mycol. Scot. n.* 185.

314. A. discopus Lev. Shining white.—**Pileus** conical, obtuse, mealy-pulverulent. **Stem** very tender, mealy-pulverulent, inserted with a small hairy bulb. **Gills** *adnate*, few, very distant, plicose.

Very small. Clearly distinct from *A. tenerrimus* in the gills.

On twigs.

Name—δίσκος, a disc; πούς, a foot. From the stem set on a disc. *Léveill. Ann. Sc. Nat.* 1841. *p.* 239. *t.* 14. *f.* 4. *Fr. Hym. Eur. p.* 151. *C. Illust. Pl.* 192.

315. A. sacchariferus B. & Br. Whitish, everywhere beset with shining granules.—**Pileus** 4 mm. (2 lin.) broad, wholly hemispherical. **Stem** short, 4 mm. (2 lin.) long, filiform, fixed at the base by a few flocci. **Gills** arcuato-decurrent, 8–9, very distant, rather thick, their margin and even the surface granulated.

Allied to *A. tenerrimus*, which has crystalline particles on the pileus, but the gills are free and ventricose.

On bramble and nettle stalks. Batheaston, 1869. March.

Spores 3 mk. *W.P.* Name—*saccharon*, sugar; *fero*, to bear. From the sugar-like granules. *B. & Br. n.* 1216. *Fr. Hym. Eur. p.* 151. *C. Illust. Pl.* 192. Var. electicus Buck. Differing in the pileus being at length sulcate, and in the adnate gills. *Buck. Trans. Brist. Soc. C. Illust. Pl.* 249.

316. A. pterigenus Fr. Wholly beautiful rose-colour.—**Pileus** 6 mm. (3 lin.) broad, 4 mm. (2 lin.) high, very tender, pellucid, globose when young, then oblong, and at length campanulate, always obtuse and at length umbilicate, even except as it appears slightly striate from the translucent gills. **Stem** at first obsoletely but when full grown remarkably fistulose, flaccid, smooth, naked, thickened into a bulb and girt with long, strigose, radiating fibrils at the base. **Gills** few (6–8), adnate, broad, distant, distinct, and without any dimidiate ones intermixed.

Although always delicate and thin it varies very much in stature; stem capillary, in choked-up places elongated to 5–7.5 cent. (2–3 in.), sometimes tense and straight, sometimes flexuous; pileus at the beginning of the size and form of a pin's head. In natural affinity it comes nearest to *A. capillaris*. Gregarious and often fasciculate.

On dead fern-stems, &c. Uncommon. Sept.–Nov.

Var. with lemon-coloured stem, and more crowded gills, on oak-leaves. *M.J.B.* The gills are occasionally alternate. Usually found by the sides of rivulets. The dead fern-stems, hanging in damp masses, must be lifted up, as it generally grows underneath, and is easily overlooked. Spores ellipsoid, 8–9 × 4 mk. *K.* Name—*pteris*, a species of fern; *gigno*, to bear. Growing on fern-stems. *Fr. Monogr.* i. *p.* 231. *Hym. Eur. p.* 152. *Icon. t.* 85. *f.* 4.

Berk. Out. p. 129. *t.* 6. *f.* 7. *C. Hbk. n.* 208. *Illust. Pl.* 192. *S. Mycol. Scot. n.* 186. *Brigant. t.* 35. *f.* 6. *Gonn. & Rab. t.* 7. *f.* 3. *Pers. Myc. Eur.* 3. *t.* 28. *f.* 6. Mycena.

IX.—Insititiæ. *Stem inserted, &c.*

317. A. corticola Schum.—**Pileus** 4–8 mm. (2–4 lin.) broad, blackish, becoming azure-blue, fuscous, cinereous, &c., thin, hemispherical, obtuse, at length obsoletely umbilicate, deeply striate, smooth or flocculoso-pruinate. **Stem** about 12 mm. (½ in.) long, scarcely 1 m. (½ in.) thick, delicately fistulose, *incurved* from situation, smooth or *slightly furfuraceous*, paler than the pileus. **Gills** adnate, uncinate with a small decurrent tooth, *broad, somewhat ovate*, distant, paler than the pileus.

Very changeable in colour. On account of its similar habitat it is commonly confounded with *A. hiemalis*. Always small, soon corrugated in dry weather, becoming flaccid. Growing in troops.

On living trunks, ash, oak, &c., among moss. Common. Aug.–Dec.

Withering when dry, but often reviving when moistened. *M. J. B.* Spores subsphæroid, 9–11 mk. *K.*; 4×8 mk. *W.G.S.* Name—*cortex*, bark; *colo*, to inhabit. Growing on bark. *Schum. Sæll. n.* 4689. *Fr. Monogr.* i. *p.* 232. *Hym. Eur. p.* 152. *Icon. t.* 85. *f.* 2. *Berk. Out. p.* 129. *C. Hbk. n.* 209. *Illust. Pl.* 164. *S. Mycol. Scot. n.* 187. *Schnizl. apud Sturm. Heft.* 3. *t.* 2. *Mich. t.* 74. *f.* 8. B. becoming light-yellow-white.

318. A. hiemalis Osbeck.—**Pileus** thin, campanulate, obsoletely umbonate, striate at the margin. **Stem** thin, ascending, *slightly downy downwards*. **Gills** adnate and uncinate, *narrow, linear*, whitish.

In the same habitats as *A. corticola*, but more scattered. It is distinguished but with difficulty from *A. corticola*: by the stem being longer, erect or ascending, scarcely incurved, pubescent downwards, by the campanulate pileus being obtusely umbonate, striate only at the margin, and chiefly by its narrow linear gills. The colour also is constantly paler, whitish, flesh-colour-rufescent, &c., scarcely ever azure-blue or fuscous.

On trunks, oak, &c. Rare. Sept.–March.

Name—*hiems*, winter. Occurring in winter. *Osbeck in Retz. Suppl. p.* 19. *Fr. Hym. Eur. p.* 153. *Monogr.* i. *p.* 233. *Icon. t.* 85. *f.* 1. *B. & Br. n.* 993. *C. Hbk. n.* 210. *Illust. Pl.* 164. *S. Mycol. Scot. n.* 188. *Gonn. & Rab. t.* 7. *f.* 6. A. corticalis *Bull. t.* 519. *f.* 1 *a* (white), *b* (flesh-colour-rufous).

319. A. setosus Sow.—**Pileus** becoming fuscous, hemispherical, obtuse, smooth. **Stem** inserted, capillary, *everywhere shaggy with distant spreading hairs*. **Gills** distant, white.

Pileus very small, very tender.

On dead leaves (beech) in woods. Rare.

Mycena.

Pileus not exceeding $\frac{1}{16}$ of an inch broad. Stem ½ in. long, finer than a hair. Nearly allied to *A. capillaris*, and very distinct from *Marasmius Hudsoni. M.J.B.* Name—*seta*, a bristle. Bristly; from the hairs on the stem. *Sow. t.* 302. *Fr. Hym. Eur. p.* 153. *Berk. Eng. Fl.* v. *p.* 64. *Out. p.* 130. *C. Hbk. n.* 211. *Illust. Pl.* 193.

320. A. capillaris Schum. Dead white when moist, shining whitish when dry.—**Pileus** about 2 mm. (1 lin.) high and broad, white, very tender, at first resembling a small pin's head, then campanulate and obtuse, at length umbilicate, slightly striate when moist, even when dry. **Stem** 2.5 cent. (1 in.), sometimes among leaves 5–7.5 cent. (2–3 in.) long, fistulose, *inserted, capillary*, flexuous, flaccid, *smooth*, more rarely girt with radiating fibrils at the base, not becoming fuscous downwards but only at the apex. **Gills** few, adnate, ascending, broad, distinct, all nearly entire and equal in length.

Very tender, but comparatively tough, readily withering when dry.

In woods, on dead leaves, chiefly beech. Frequent. Sept.–Nov.

Appearing chiefly in soaking wet weather. Spores 2 mk. *W.G.S.* Name—*capillus*, a hair. From the *hair-like* stem. *Schum.—Fr. Monogr.* i. *p.* 233. *Hym. Eur. p.* 153. *Icon. t.* 84. *f.* 6. *Berk. Out. p.* 130. *C. Hbk. n.* 212. *Illust. Pl.* 193. *S. Mycol. Scot. n.* 189. *Fl. Dan. t.* 2142. *f.* 1. A. lacteus *Bull. t.* 601. *f.* 2. *C.* A. acicularis *Hoffm. Nom. t.* 5. *f.* 2.

321. A. juncicola Fr.—Pileus 2 mm. (1 lin.) broad, rufescent, convex, striate, smooth. **Stem** 12 mm. (½ in.) long, inserted, capillary, *smooth, fuscous*. **Gills** adnate, distant, white.

Very small, very tender.

On dead rushes in bogs. Rare. June–July.

Pileus in my specimens of a deep blood-red, inclining to tawny. Gills yellowish-white. Stem brown, paler above. *M.J.B.* Fries notes having found it chiefly on rotten leaves of *Juncus articulatus*. Name—*juncus*, a rush; *colo*, to inhabit. Growing on rushes. *Fr. Hym. Eur. p.* 154. *Monogr.* i. *p.* 234. *Icon. t.* 85. *f.* 6. *Berk. Out. p.* 130. *C. Hbk. n.* 213. *Illust. Pl.* 193. *c. Mich. t.* 80. *f.* 9. *Paul. t.* 105. *f.* 11. *Bull. t.* 148. *f. D.*

Omphalia.

Subgenus VIII. **OMPHALIA** (ὀμφαλός, an umbilicus). Fr. Syst. Myc. i. p. 162. Stem *cartilaginous*, fistulose, but having the tube often stuffed with flocci, somewhat thickened upwards, widened out like a trumpet into the pileus. Gills truly *decurrent. Pileus somewhat membranaceous. Very closely allied to the Collybiæ and Mycenæ, from which this tribe is separated on account of*

its gills. Stature and history the same. Species of the same stature also occur among the *Cantharelli* and *Marasmii*. The pileus is most frequently indeed umbilicato-infundibuliform, but this feature is in no wise constant or essential, nor is it a mark of more importance that the gills are often branched. *Fr. Hym. Eur. p.* 154. Omphalia.

The species are generally well marked. They prefer a moist situation, and stand changes of temperature well. The larger ones are peculiar to mountainous regions. They are inodorous, and none are known to be edible.

IX. Agaricus (*Omphalia*) *umbelliferus.* Natural size.

I. Collybiarii. Pileus at the first dilated, with the margin inflexed. *These are divided by their gills into three very distinct groups.*

* Hydrogrammi (*A. hydrogrammus*). Commonly *comparatively large, gills narrow, very crowded.* Besides the essential mark afforded by the stem, they differ from the cyathiform Clitocybæ by their gills, which are truly decurrent at the first, very crowded and arcuate.

** Pyxidati (*A. pyxidatus*). *Intermediate, gills slightly distant, narrow,* attenuated at both ends.

*** Umbelliferi (*A. umbelliferus*). *Gills very distant, broad, commonly thick.* (*Xerotus turfosus* is likely to be looked for here.)

II. Mycenarii. Pileus at the first campanulate, margin straight, pressed to the stem.

* Campanellæ (*A. campanella*). *Gills broad, perfect, unequal.*

** Integrelli (*A. integrellus*). *Gills fold-like, narrow.*

I.—Collybiarii.

* Hydrogrammi. *Gills narrow, very crowded.*

322. A. hydrogrammus Fr. Of one colour, livid or whitish-livid when moist, whitish when dry.—**Pileus** 5 cent. (2 in.) and more broad, *somewhat membranaceous*, flaccid, deeply umbilicate, remarkably hygrophanous, *border spreading*, somewhat undulated, *striate.* **Stem** 7.5 cent. (3 in.) long, 6 mm. (3 lin.) thick, remarkably cartilaginous, *hollow-fistulose*, smooth, rooted and white-bearded at the base, sometimes shorter, round, straight, sometimes elongated, often decumbent and cæspitose, commonly compressed and undulated, *livid*, naked at the apex. **Gills** deeply decurrent, *very crowded*, narrow, arcuate, quite entire, very unequal, *livid-whitish.*

Somewhat cæspitose. When in the dry state it has been confounded by most authors with *A. phyllophilus.*

Omphalia. Among dead leaves. Coed Coch, 1876, &c. Oct.

Name—ὕδωρ, water; γραμμή, a line. With watery streaks. *Fr. Monogr.* i. *p.* 179. *Hym. Eur. p.* 154. *Icon. t.* 71. *B. & Br. n.* 1643. *Letell. Ic. t.* 605. *C. Illust. Pl.* 239. *Bull. t.* 674.

323. A. umbilicatus Schæff.—**Pileus** 2.5 cent. (1 in.) broad, *livid* when moist, the disc becoming somewhat fuscous, whitish when dry, somewhat membranaceous, at the first *deeply umbilicate*, otherwise convexo-plane, *even*, smooth. **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, cartilaginous, *fistulose*, *equal*, here and there flexuous, twisted or incurved, somewhat rooted or cohering with villous down at the base, even, *silky-striate with white fibrils at the apex.* **Gills** at first *shortly*, then deeply *decurrent*, *crowded*, thin, unequal, whitish.

B. Pileus 5 cent. (2 in.) broad, becoming yellow-livid, rather plane, depressed at the disc. Stem 2.5–4 cent. (1–1½ in.) long, not rooted, remarkably cartilaginous. Gills shortly decurrent. The habit is different, but there are no distinguishing characters. In pine woods.

Somewhat cæspitose. Very hygrophanous. Pileus at length infundibuliform. There are many similarly coloured forms of *Clitoc. Orbiformes* distinct in the fibrous stem, in the pileus not being at the first deeply umbilicate, and in the gills being scarcely decurrent.

In woods among moss. Perth, 1876. Autumn.

Name—*umbilicus*, navel. With a small circular depression. *Schæff. t.* 207. *Fr. Monogr.* i. *p.* 179. *Hym. Eur. p.* 155. *B. & Br. n.* 1644. *S. Mycol. Scot. n.* 190.

324. A. maurus Fr.—**Pileus** 2.5 cent. (1 in.) or a little more broad, fuliginous when moist, livid when dry, somewhat membranaceous, *convex*, *deeply umbilicate*, smooth, hygrophanous, *striate* when moist, even, silky shining when dry. **Stem** 2.5–5 cent. (1–2 in.) long, scarcely 2 mm. (1 lin.) thick, remarkably cartilaginous, *somewhat horny*, *rigid*, fragile, at first flocculoso-stuffed, smooth, *fuliginous-blackish.* **Gills** much attenuated at both ends, very acutely and deeply *decurrent*, *arcuate*, *very crowded*, *shining white.*

Very distinguished by its deep umbilicus, but by the broad border being everywhere regularly deflexed. In a similar habitat a younger or poorer form occurs: pileus firmer, not striate; gills adnato-decurrent, little arcuate. *A. atratus* differs in the even pileus, tough stem, and scarcely crowded and not truly decurrent gills.

On lawns and in moist places. Coed Coch.

Fries gathered it in marshy burnt places among charcoal. Spores ellipsoid or ellipsoid-sphæroid, even, 5–6 × 3–4 *K.* Name—*Maurus*, a Moor, swarthy. From the dusky colour. *Fr. Monogr.* i. *p.* 180. *Hym. Eur. p.* 156. *Icon. t.* 73. *f.* 2 var. *B. & Br. n.* 1645. *C. Illust. Pl.* 287.

325. A. offuciatus Fr.—**Pileus** 2.5 cent. (1 in.) broad, at first dark then pale *flesh-colour*, becoming pale, almost whitish, when old and dry, slightly fleshy, *convex then plano-depressed*, even, smooth, hygrophanous. **Stem** 5 cent. (2 in.) long, 2–4 mm. (1–2 lin.) thick, remarkably cartilaginous, *fistulose*, equal, round when young, then compressed, *smooth*, *reddish*, obsoletely pruinate at the apex. **Gills** moderately *decurrent*, plane, *straight*, *crowded*, narrow, of the same colour as the pileus. Omphalia.

The pileus is not so deeply umbilicate as in the rest of this group. The gills change colour from dark to pale flesh as the pileus does. Almost the habit of *A. dryophilus*. There are commonly 2–3 individuals joined together in a fasciculate manner.

Under beech, &c. Coed Coch, 1880.

Name—*offucia*, a wash or paint. *Fr. Monogr.* i. *p.* 181. *Hym. Eur. p.* 156. *Icon. t.* 72. *f.* 3. *B. & Br. n.* 1852. *C. Illust. Pl.* 287.

** Pyxidati. *Gills slightly distant, narrow, &c.*

326. A. chrysophyllus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) and more broad, very hygrophanous, *yellow-fuscous* when moist, *tan-hoary* or hoary-whitish *when dry*, somewhat membranaceous, flaccid, at the first deeply *umbilicate*, the spreading border somewhat reflexed, *flocculose*, somewhat squamulose. **Stem** 2.5–5 cent. (1–2 in.) long, 4 mm. (2 lin.) thick, tough, soon *fistulose*, equal, somewhat incurved, even, very smooth, somewhat rooted at the villous base, *golden egg-yellow*, colour unchangeable. **Gills** truly decurrent, *distant*, broad, distinct, persistently *golden egg-yellow*.

Spores wholly white. Comparatively large, gregarious. The gills are broader than those of species nearest to it.

On pine sawdust. Glamis, 1884. Oct.

When moist the umbilicus is darker than the rest of the pileus. Name—χρυσός, gold; φύλλον, a leaf. With golden gills. *Fr. Monogr.* i. *p.* 181. *Hym. Eur. p.* 156. *Icon. t.* 74. *f.* 1.

327. A. Postii Fr.—**Pileus** 2.5–5 cent. (1–2 in.) and more broad, *bright orange*, membranaceous, at the first umbilicate, then depressed, even, *smooth*, but convex and striate towards the margin. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) and more thick, fistulose, remarkably equal, tense and straight, even, smooth, becoming light yellow. **Gills** deeply and truly decurrent, 2 mm. (1 lin.) broad, linear, arcuate, whitish.

Readily distinguished from all neighbouring species by the *bright orange colour* of the *smooth* pileus.

Omphalia. On charcoal-beds. Downton, 1874. Sept.

Name—after H. von Post. *Fr. Monogr.* ii. *p.* 291. *Hym. Eur. p.* 157. *Icon. t.* 74. *f.* 2. *C. Illust. Pl.* 194.

328. A. pyxidatus Bull.—**Pileus** as much as 2.5 cent. (1 in.) broad, very hygrophanous, *brick-rufescent* or rufous-fuscous when moist, becoming pale, opaque when dry, membranaceous, pellucid, umbilicate then infundibuliform, *when moist* smooth, sometimes at the margin, sometimes wholly *radiato-striate*, when dry flocculose or slightly silky. **Stem** 2.5 cent. (1 in.) long, almost 2 mm. (1 lin.) thick, stuffed then fistulose, *tough*, equal, round, smooth or pruinose, *pallid then rufescent.* **Gills** decurrent, *somewhat distant*, distinct, narrow, but broader at the middle, *flesh-colour then pale-yellowish.*

The entire plant is much more changeable than neighbouring species are.

Among grass on lawns and in woods. Frequent. Aug.–Oct.

Spores ellipsoid-sphæroid, irregular, 7–8 × 5–6 mk. *K.*; 6–4 × 4–5 mk. *B.*; 5–7 × 3–4 mk. *W.P.* Name—*pyxis*, a small box. Box-shaped. *Bull. t.* 568. *f.* 2. *Fr. Monogr.* i. *p.* 182. *Hym. Eur. p.* 157. *Berk. Out. p.* 130. *t.* 6. *f.* 8. *C. Hbk. n.* 214. *Illust. Pl.* 194. *S. Mycol. Scot. n.* 191.

329. A. leucophyllus Fr.—**Pileus** more than 2.5 cent. (1 in.) broad, dark cinereous, somewhat membranaceous, infundibuliform, *becoming even*, not floccose, the reflexed margin involute. **Stem** 4 cent. (1½ in.) and more long, 2 mm. (1 lin.) thick, stuffed then fistulose, slightly rigid, equal, even, smooth, *cinereous.* **Gills** decurrent, slightly distant, arcuate, distinct, *shining white.*

Very distinct from all others of this group in its *shining white gills.* Analogous with *A. maurus*, but clearly distinct in its stature and somewhat distant gills.

Among short grass. Coed Coch, 1869.

Spores ellipsoid-pruniform, punctate, 10 mk. *Q.* Name—λευκός, white; φύλλον, a leaf. White-gilled. *Fr. Vet. Ak. Förh.* 1851. *p.* 45. *Monogr.* i. *p.* 183. *Hym. Eur. p.* 157. *Icon. t.* 73. *f.* 4. *B. & Br. n.* 1217. *C. Illust. Pl.* 288.

330. A. striæpileus Fr.—**Pileus** 2.5 cent. (1 in.) or a little more broad, hygrophanous, *livid-fuscous*, becoming pale-white when dry, somewhat membranaceous, convex then *flattened*, umbilicate, never infundibuliform, *the whole* elegantly *striate*, smooth, even and not floccose when dry. **Stem** 5 cent. (2 in.) long, 2 mm. (1 lin.) thick, fistulose, slightly firm, equal, often flexuous, slightly tough, even, smooth, becoming fuscous. **Gills** somewhat decurrent, somewhat crowded, 2–3 mm. (1–1½ lin.) broad, whitish, not becoming cinereous.

Among moss in mixed wood. Glamis, 1876. Oct. Omphalia.

Easily recognised by its remarkably striate pileus. Spores ovoid-sphæroid, verrucose echinulate, 7–8 mk. *Q.* Name—*stria*, a furrow. With striate pileus. *Fr. Monogr.* ii. *p.* 291. *Hym. Eur. p.* 157. *Icon. t.* 73. *f.* 3. *B. & Br. n.* 1646. *S. Mycol. Scot. n.* 192. *C. Illust. Pl.* 288.

331. A. telmatiæus Berk. & Cke.—**Pileus** 18 mm. (¾ in.) broad, hygrophanous, brown then mouse-coloured, infundibuliform or deeply umbilicate, minutely virgate. **Stem** compressed, tomentose at the base. **Gills** distinct, distant, ending abruptly, decurrent.

On sphagnum. Aboyne, 1862, &c. Aug.

Name—τελματιᾶιος, occurring in marshy places. *B. & Br. n.* 994 (A. affricatus). *C. Illust. Pl.* 240.

332. A. sphagnicola Berk.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, dirty pale-ochre, becoming darker in age, somewhat fleshy, infundibuliform, obscurely striate and minutely squamulose, moist but not viscid. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, fistulose, somewhat crooked, smooth except at first when it is very minutely squamulose above. **Gills** decurrent, narrow, moderately distant, thick, edge flattish, dirty ochraceous.

Distinguished from *A. philonotis* by its tough, elastic substance, &c.

On *Sphagnum acutifolium.* Uncommon. June.

Name—*sphagnum; colo*, to inhabit. Growing among sphagnum. *Berk. Eng. Fl.* v. *p.* 67. *Out. p.* 131. *C. Hbk. n.* 217. *Illust. Pl.* 289. *a. S. Mycol. Scot. n.* 194. *Fr. Hym. Eur. p.* 158.

333. A. philonotis Lasch. *Cinereous-fuliginous.*—**Pileus** 12–18 mm. (½–¾ in.) broad, membranaceous, *the whole deeply infundibuliform*, margin erect, without striæ, hygrophanous, floccose when dry. **Stem** 4 cent. (1½ in.) long, scarcely reaching 2 mm. (1 lin.) thick, fistulose, equal or attenuated upwards, smooth, floccose at the base. **Gills** *deeply decurrent*, extended in a straight line to the margin, somewhat distant, narrow, lanceolate.

Fragile. Pyxidate. Margin of pileus not reflexed.

On sphagnum. Glamis, 1874, &c. Aug.

Fries notes that it is a vernal species. Name—φίλος, loving; νοτίς, moisture. Moisture-loving. *Lasch n.* 226. *Fr. Monogr.* i. *p.* 184. *Hym. Eur. p.* 158. *Icon. t.* 76. *f.* 1. *B. & Br. n.* 1412. *S. Mycol. Scot. n.* 195. *C. Illust. Pl.* 289. *b.*

334. A. oniscus Fr.—**Pileus** scarcely 2.5 cent. (1 in.) broad, dark *cinereous* becoming pale, grey-hoary when dry, somewhat

Omphalia. membranaceous, or slightly fleshy, *flaccid*, fragile when old, *convexo-umbilicate* or infundibuliform, often irregular, undulato-flexuous, even-lobed, *smooth*, *even*, margin striate. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) and more thick, stuffed then fistulose, *slightly firm*, moderately tough, sometimes round, curved, sometimes unequal, compressed, ascending, undulated, *grey*. **Gills** shortly *decurrent*, somewhat distant, quaternate, *cinereous*.

The gills are almost darker when dried. Not cæspitose. Very distinct from *A. philonotis*, &c., but allied to *A. pyxidatus*, though the colour is very different. In colour and irregular pileus it approaches very near to *A.* (*Pleur.*) *tremulus*.

On swampy ground in woods. Rare. Dec.

Spores 12×7–8 mk. *B.* Name—ὀνίσκος, the wood-louse. From the cinereous colour. *Fr. Monogr.* i. *p.* 185. *Hym. Eur. p.* 158. *Icon. t.* 76. *f.* 3. *Berk. Out. p.* 131. *C. Hbk. n.* 218. *Illust. Pl.* 209. *S. Mycol. Scot. n.* 196.

335. A. cæspitosus Bolt.—**Pileus** 1–2.5 cent. (½–1 in.) broad, hygrophanous, yellowish-white when moist, becoming opaque-white when dry, somewhat membranaceous, convex, somewhat hemispherical, umbilicate, margin crenate, sulcate nearly to the centre, otherwise smooth. **Stem** usually curved, fistulose, somewhat bulbous at the base. **Gills** very distant and very broad (triangular), shortly decurrent, whitish.

On peat and sandy heaths. King's Lynn, 1882.

Formerly confounded with *A. oniscus*. Spores 5×6 mk. *W.G.S.* Name—*cæspes*, a clump. Cæspitose; from its habit of growth. *Bolt. t.* 41. *c. C. Illust. Pl.* 209. *b.*

336. A. glaucophyllus Lasch.—**Pileus** scarcely 12 mm. (½ in.) broad mouse-colour, hygrophanous, becoming pale when dry, membranaceous, infundibuliform, *plicato-striate*, slightly smooth, become even when dry. **Stem** stuffed, firm. **Gills** decurrent, somewhat distant, lanceolate, *olivaceous*.

On the ground in woods. King's Lynn.

Name—γλαυκός, a bluish grey, of the olive; φύλλον, a leaf. With olive-grey gills. *Lasch n.* 217. *Fr. Hym. Eur. p.* 159.

337. A. rusticus Fr.—**Pileus** 12 mm. (½ in.) and less broad, fuscous then grey when moist, when dry smooth and becoming fuscous in one form, somewhat silky and hoary in another, membranaceous, always truly and broadly *umbilicate* at the disc, otherwise *convex*, striate when moist, even when dry. **Stem** 12 mm. (½ in.) rarely more long, 1 m. (½ lin.) thick, *stuffed*, *curt*, equal or thickened upwards and only where so thickened at length hol-

low, *polished*, smooth, *fuscous then grey*, slightly villous at the base. Omphalia.
Gills decurrent, thick, somewhat distant, equally attenuated at both ends, *grey*, *edge arcuate*.

In the one form (becoming fuscous) which seems the younger, the adnate gills are slightly, but in the other deeply, decurrent.

On grass avenue in wood. Coed Coch, 1866, &c. Aug.–Sept.

Name—*rus*, the country. Rustic; occurring in wild, grassy, &c., places. *Fr. Monogr.* i. *p.* 185. *Hym. Eur. p.* 159. *B. & Br. n.* 1217 *bis*. *S. Mycol. Scot. n.* 197. A. ericetorum *Pers. Obs. Myc.* i. *t.* 4. *f.* 12, var. γ.

*** Umbelliferi. *Gills very distant, broad, &c.*

338. A. demissus Fr.—**Pileus** 8–10 mm. (4–5 lin.) broad, *fuscous-rufescent*, *somewhat membranaceous*, convex then expanded, obtuse, *at length umbilicate*, *striate when moist*, even and smooth when dry. **Stem** scarcely 2.5 cent. (1 in.) long, somewhat cartilaginous, but *stuffed*, equal, even, *smooth*, *shining*, *liver-rufescent*. **Gills** adnate, somewhat decurrent, very broad behind, somewhat triangular, *distant*, distinct, becoming *purple*.

Pileus obsoletely pruinose when dry. It has the habit and many of the characters of *A. laccatus*.

In waste places. Rare. Oct.

A. rufulus B. & Br. Margin of pileus crenulate. Stem flexuous. Gills rather thick, forked, interstices veiny. Spores oblong, oblique. *B. & Br.* Name—*demissus*, drooping. Bent to one side. *Fr. Monogr.* i. *p.* 143. *Hym. Eur. p.* 160. *S. Mycol. Scot. n.* 198. *C. Illust. Pl.* 250. A. rufulus *B. & Br. n.* 325. *Berk. Out. p.* 132. *C. Hbk. n.* 221.

339. A. hepaticus Batsch.—**Pileus** 1–4 cent. (½–1½ in.) broad, rufous flesh-colour when moist, when dry slightly tawny and tan, *coriaceo-membranaceous*, umbilicato-convex then infundibuliform, sometimes undulato-lobed, *even*, smooth, somewhat shining when dry; flesh fibrous. **Stem** about 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, *fistulose*, very tough, equal, but in becoming compressed it is broader and dilated at the apex, *fuscous-flesh-colour*, commonly naked, rarely white-pruinate. **Gills** deeply decurrent, *distant*, remarkably *connected by veins*, narrow, linear, whitish, becoming pale (not flesh-colour), sometimes crisped.

Very tough, *pliant*. Often in company with *A. pyxidatus*, to which it is very similar, but distinct in its somewhat coriaceous nature.

On lawns, &c. Rare.

Approaching *A. umbelliferus*. *M. J. B.* Spores 5–8 × 2–4 mk. *B.* Name—ἧπαρ, liver. From its liver colour. *Batsch f.* 211. *Fr. Monogr.* i. *p.* 182. *Hym. Eur. p.* 160. *Berk. Out.* p. 131. *C. Hbk. n.* 215. *Illust. Pl.* 250.

Omphalia.

340. A. muralis Sow.—**Pileus** *rufous-brown*, somewhat membranaceous, tough, convex, umbilicate, then infundibuliform, *radiato-striate*, smooth, margin crenulate. **Stem** *stuffed*, curt, smooth, of the same colour as the pileus. **Gills** decurrent, distant, pallid.

Intermediate between *A. hepaticus* and *A. umbelliferus*. The figure of Sowerby differs from Fries in the pileus being even (with dryness?), in the stem being thicker, and in the gills becoming dingy yellow.

On turf walls, &c. Frequent. Feb.–Sept.

Pileus 8 mm.–2.5 cent. (⅓–1 in.) broad. Stem 6–12 mm. (¼–½ in.) long. Name—*murus*, a wall. From its habitat. *Sow. t.* 322. *Fr. Hym. Eur. p.* 160. *Monogr.* i. *p.* 186. *Berk. Out. p.* 131. *C. Hbk. n.* 219. *Illust. Pl.* 250. *S. Mycol. Scot. n.* 199.

341. A. umbelliferus Linn.—**Pileus** about 12 mm. (½ in.) broad, commonly whitish, *slightly fleshy-membranaceous*, convex then plane, *broadly obconic* with the decurrent gills, not at all or only slightly umbilicate, hygrophanous, when moist watery, *rayed with darker striæ*, when dry even, changeable in appearance, silky, flocculose, rarely squamulose, *the margin, which is at first inflexed, crenate*. **Stem** *short*, not exceeding 2.5 cent. (1 in.) long, almost 2 mm. (1 lin.) thick, stuffed then soon fistulose, slightly firm, equal or dilated towards the apex into the pileus, of the same colour as the pileus, commonly *smooth*, but varying pubescent, white villous at the base. **Gills** *very broad behind, triangular*, decurrent, *very distant*, edge of the gills straight.

The floccose texture of the pileus is thicker at the disc than in the rest of the species of this section, hence the pileus is less membranaceous, and the umbilicus more obsolete. The gills vary dichotomous, &c. The colour is very changeable, commonly whitish, shining whitish when dry; in Alpine regions and on trunks bright light-yellow, the pileus when dry commonly whitish (*A. chrysoleucus* Pers.); about shady hedges and burnt places grey, with the stem often velvety; on rotten trunks of beech, and in some shady places *dark umber*. There is a green variety. *Fl. Dan. t.* 1672. *f.* 1.

Boggy ground, rotten wood, &c. Common. April–Dec.

Cosmopolitan. The common form is to be found everywhere from the sea-level to 4000 feet. The green form, agreeing exactly with the 'Flora Danica' figure (*t.* 1672. *f.* 1.), has been gathered in England (*B. & Br. n.* 1749). I have gathered the form which corresponds exactly with *A. chrysoleucus* Pers. in lower grounds, and the golden-yellow variety only at the higher altitudes, up to 3500 feet. Var. abiegnus (*B. & Br. n.* 1413) pale yellow; on very decayed fir-stump. Spores 3×4 mk. *W.G.S.*; 10×4 mk. *W.P.*; green var. 10×6 mk. *W.P.* Name—*umbella; fero*, to bear; umbel-bearing. With umbel-shaped pileus. *Linn. Suec. n.* 1192. *Fr. Monogr.* i. *p.* 187. *Hym. Eur. p.* 161. *Berk. Out. p.* 132. *C. Hbk. n.* 220. *Illust. Pl.* 271. *S. Mycol. Scot. n.* 200. A. niveus *Fl. Dan. t.* 1015. *A. Hedw. fil. Obs.* i. *t.* 3. *f.* A. A. valgus *Holmsk. Ot.* ii. *t.* 34.

342. A. infumatus B. & Br.—**Pileus** 4 mm. (2 lin.) broad, green then of a smoked colour, obtuse, not membranaceous. **Stem** 2.5 cent. (1 in.) long, thin, not 2 mm. (1 lin.) thick, yellow, dilated at the base, tomentose, especially below. **Gills** decurrent, few (about 12), with smaller intermediate, broad, distant, yellow. Omphalia

Allied to A. *umbelliferus*, but quite distinct from all its varieties.

On bark among moss. Garthewin.

Name—*infumo*, to smoke. From its smoked colour. *B. & Br. n.* 1851.

343. A. retostus Fr. *Wholly umber.*—**Pileus** 12 mm. (½ in.) and more broad, *slightly fleshy*, plano-depressed, when moist even and *when dry polished* and smooth, *margin* convex, *involute, entire;* flesh of the same colour. **Stem** curt, scarcely 2.5 cent. (1 in.) long, 2 mm. (1 lin.) and more thick, fistulose, tough, equal, smooth, paler than the pileus. **Gills** slightly decurrent, equally attenuated at both ends, broader in the middle, hence resembling a segment of a circle, distant, distinct, pallid umber.

In colour it approaches *A. oniscus*, but in the very distant gills it is more allied to *A. umbelliferus*, from which it is easily distinguished by *the gills being in the form of a segment.* Moreover, it clearly differs from the umber form of that species in being even when moist and *polished* and smooth when dry. It is also firmer.

On lawn. Coed Coch, 1878. Oct.

Name—*retostus*, roasted. From its scorched appearance. *Fr. Monogr.* i. *p.* 187. *Hym. Eur. p.* 161. *Icon. t.* 76. *f.* 2. the two lower fig. *B. & Br. n.* 1750. *C. Illust. Pl.* 272. *b.*

344. A. abhorrens B. &. Br.—**Pileus** fuscous, umbilicate, even. **Stem** slender, of the same colour as the pileus, white-tomentose at the base. Gills decurrent, distant, thick, interstices even.

Odour very fœtid, stercoraceous. Cæspitose. Allied closely to *A. retostus*, but clearly distinct, apart from its disgusting smell. Stem sometimes pruinose when young.

On lawn. Coed Coch, &c. Oct.

Name—*abhorreo*, to abhor. Of its disgusting smell. *B. & Br. n.* 1751, 1853. *C. Illust. Pl.* 272. *c.*

345. A. pseudo-androsaceus Bull. *Whitish* or grey.—**Pileus** fleshy-membranaceous, convex, deeply umbilicate, *at length infundibuliform*, smooth, striato-plicate, margin crenulate. **Stem** stuffed, *slender.* **Gills** deeply decurrent, in the form of a segment, distant, distinct.

Distinguished from *A. griseo-pallidus* by its slender stature.

Omphalia.

Among moss on lawn. Coed Coch, 1878. Oct.-Nov.

Pileus 8–15 mm. broad. Stem 2–3 cent. long. Spores 6–7 × 3–4 mk. *B.* Name—ψευδός, false. Like spurious *Marasmius androsaceus. Bull. t.* 276. *Hym. Eur. p.* 161. *B. & Br. n.* 1752. *C. Illust. Pl.* 241.

346. A. griseo-pallidus Desm.—**Pileus** 6–8 mm. (3–4 lin.) rarely more broad, *fuscous-grey* then becoming hoary, *slightly fleshy*, convex then plane, *umbilicate*, even, *smooth*, slightly shining, but hygrophanous, here and there unequal and excentric; *margin deflexed*, but scarcely inflexed. **Stem** curt, about 8 mm. (4 lin.) long, *stuffed*, fistulose only when old, slightly firm, equal or thickened upwards, smooth, fuscous. **Gills** decurrent, *broader behind*, distant, rather thick, of the same colour as the pileus when moist, darker when dry inasmuch as they do not become pale.

Readily recognised by its minuteness. It is like a diminutive state of *A. umbelliferus*, and is analogous with *A. rusticus*. As regards the gills it is intermediate between *A. retostus* and *A. umbelliferus*.

On the ground. King's Lynn.

Name—*griseus*, grey; *pallidus*, pallid. *Desmaz. Exs. n.* 120. *Fr. Monogr.* i. *p.* 188. *Hym. Eur. p.* 161. *Pers. Myc. Eur.* 3. *t.* 28. *f.* 3. *C. Illust. Pl.* 241.

347. A. stellatus Fr. Wholly *white*.—**Pileus** 6–8 mm. (3–4 lin.) broad, truly membranaceous, convex, umbilicate, diaphanous-striate, smooth. **Stem** scarcely 2.5 cent. (1 in.) long, *stuffed*, at length fistulose, fragile, *filiform*, equal, *the dilated base strigoso-radiate*. **Gills** decurrent, very distant, distinct, *thin*, *broad*, not triangular.

From situation the stem is often incurved. It is dilated at the base as in *Mycenæ Basipedes*. Thinner than *A. griseo-pallidus*, &c. Nearest to *A. integrellus*, but distinct in its broader gills, &c.

On sticks, stems of herbaceous plants, &c. Uncommon. Feb.–Nov.

Distinguished by its thin gills from every state of *A. umbelliferus*. *M. J. B.* Spores subsphæroid, irregular, 6-7 × 5 mk. *K.*; 7–8 × 2 mk. *B.* Name—*stella*, a star. From the *star-like* or radiate base. *Fr. Monogr.* i. *p.* 188. *Hym. Eur. p.* 162. *Berk. Out. p.* 132. *C. Hbk. n.* 222. *Illust. Pl.* 241. *S. Mycol. Scot. n.* 201.

II.—Mycenarii.

* Campanellæ. *Gills broad, perfect, unequal.*

348. A. campanella Batsch.—**Pileus** about 12 mm. (½ in.) broad, *yellow-ferruginous*, hygrophanous, membranaceous, tough, campanulate then soon *convex*, *umbilicate*. **Stem** 2.5–5 cent. (1–2

in.) long, scarcely 2 mm. (1 lin.) thick, *horny*, *rigid*, fistulose, Omphalia.
smooth, *date-brown*, attenuated and rooted, *tawny-strigose at the base*, paler at the apex. **Gills** deeply decurrent, arcuate, somewhat crowded, *remarkably connected by veins*, *yellow*, not pruinose, varying veined.

Growing in a dense band, commonly cæspitose, and gladdening the recesses of the woods with its shining colours. There are two remarkable varieties, gregarious on the ground: B. *badipus*, the longer stem stuffed, somewhat fibrillose, with a small villous-strigose tawny bulb at the base; C. *papillata*, pileus acutely conical, papillate, at length depressed round the papilla. A more remarkable variety is *myriadea* Kalchbr. in litt., half the size of the common form, very densely cæspitose, covering over the trunks of pine like a dense fleece, pale tawny, with pallid brick-flesh-coloured gills.

In fir woods, on trunks, &c. Frequent. Aug.–Sept.

The dark stem and tawny pubescence at the base readily distinguish the species. *M. J. B.* Spores ellipsoid, 6–8 × 3–4 mk. *C.B.P.*; 7 × 3 mk. *W.P.*; 6–9 × 3–4 mk. *B.* Name—*campana*, a bell. Diminutive. Shaped like a little bell. *Batsch.—Fr. Monogr.* i. *p.* 189. *Hym. Eur. p.* 162. *Berk. Out. p.* 133. *C. Hbk. n.* 223. *Illust. Pl.* 273. *S. Mycol. Scot. n.* 202. *Sow. t.* 163. *Schæff. t.* 230. Var. badipus *C. Illust. Pl.* 273.

349. A. pictus Fr.—**Pileus** about 4–6 mm. (2–3 lin.), but *higher than broad*, *fuscous*, the *umbilicate disc* commonly light yellow, the perpendicular sides darkly striate, the margin, which is entire, paler, membranaceous, *campanulato-hood-shaped*, almost oval. **Stem** 5–7.5 cent. (2–3 in.) long, almost filiform, *horny*, *rigid*, stuffed, tense and straight, smooth, *date-brown*, *inserted at the base*, *which is in the form of a little fuscous-tawny*, *radiating membrane*, slightly thickened and paler at the apex. **Gills** adnate, somewhat decurrent, very broad on account of the singular form of the pileus, higher than broad, distinct, distant, somewhat convex, whitish, turning light yellow.

Among the most distinct species. The gills are much broader than long. Varying like *A. campanella:* B. smaller, the obsolete umbilicus of the same colour, stem thinner and without the radical membrane. *Batsch f.* 86. C. pileus conical, papillate. Compare A. phiala *Fl. Dan. t.* 1730.

In mixed wood. Killin, 1876, &c. Sept.

Name—*pingo*, to paint, adorn. From the various colours. *Fr. Monogr.* i. *p.* 189. *Hym. Eur. p.* 163. *Icon. t.* 77. *f.* 4. *B. & Br. n.* 1647. *S. Mycol. Scot. n.* 203. *C. Illust. Pl.* 273.

350. A. camptophyllus Berk.—**Pileus** 12 mm. (½ in.) broad, brown with a grey margin, convexo-plane, deeply striate, smooth, dry. **Stem** 5 cent. (2 in.) or more long, not 2 mm. (1 lin.) thick, minutely fistulose, somewhat flexuous, somewhat rigid, minutely pubescent, radiato-strigose at the base, at first yellow, when full

Omphalia.

grown pale above, pale rufescent below. **Gills** at first adnate, nearly plane, then ascending and suddenly decurrent, rather distant, white.

Solitary or only subgregarious. There is no absolute depression, but only a flattening of the centre of the pileus.

On sticks, &c. Rare. Aug.–Oct.

Name—κάμπτω, to bend or curve; φύλλον, a leaf. With bent gills; elbow-gilled. *Berk. Eng. Fl.* v. *p.* 62. *Out. p.* 133. *C. Hbk. n.* 224. *Illust. Pl.* 210. *Fr. Hym. Eur. p.* 163.

351. A. umbratilis Fr.—**Pileus** 2.5 cent. (1 in.) broad, *shining black-fuscous*, hoary when dry, somewhat membranaceous, *obtusely campanulate*, then convex and *umbilicate*, smooth, margin somewhat striate. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, *tough*, tubular but flocculoso-stuffed internally, equal, even, *smooth*, *fuscous-dead black*. **Gills** adnato-decurrent, *arcuate*, *crowded*, broad, acute at both ends, becoming fuscous-white.

Gregarious, tough, hygrophanous. In colours and external appearance it approaches *A. retostus*, but is easily distinguished by the crowded gills and other marks. It may rather be confounded with *A. ambustus* and *A. atratus*, which however are removed from it by the characters of *Collybia*. It is larger than those nearest to it and remarkably distinct.

On the ground among grass. Coed Coch. Autumn.

Spores 6-7 × 4-5 mk. *B.* Name—*umbratilis*, remaining in shade. Perhaps in reference to colour, as Fries compares it with *A. ambustus*, *A. atratus*, and *A. retostus*. *Fr. Monogr.* i. *p.* 190. *Hym. Eur. p.* 164. *Icon. t.* 77. *f.* 3. *C. Illust. Pl.* 274.

352. A. griseus Fr.—**Pileus** 12 mm. (½ in.) broad, livid-grey then hoary, hygrophanous, somewhat membranaceous, campanulate then convex, somewhat papillate and at length slightly umbilicate, not however expanded, smooth, striate. **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick, *slightly firm*, cartilaginous, soon fistulose, *slightly thickened at the apex*, round, tense and straight, even, smooth, *whitish-cinereous*, longitudinally *brittle*, *not rooting*. **Gills** *shortly decurrent*, *distant*, broad, rather thick, whitish-grey.

Between *Mycena* and *Omphalia*. It has an analogy as regards stature with *A. campanella*, and in both the pileus varies umbilicate or papillate. On account of the gills, however, which are truly though slightly decurrent, it must be referred to *Omphalia*. It is allied to *Cantharellus replexus*.

In pine wood. Rare. Sept.

Name—*griseus*, grey. *Fr. Monogr.* i. *p.* 191. *Hym. Eur. p.* 164. *Icon. t.* 78. *f.* 1. *Berk. Out. p.* 133. *C. Hbk. n.* 225. *Illust. Pl.* 210. *S. Mycol. Scot. n.* 204.

353. A. fibula Bull.—**Pileus** 4–10 mm. (2–5 lin.) broad, normally *orange-yellow*, becoming pale when dry, hygrophanous, membranaceous, hood-shaped then expanded, commonly umbilicate and at length wholly infundibuliform, smooth, striate when moist, even when dry. **Stem** 2.5 cent. (1 in.) and more long, stuffed when young, then fistulose, *bristle-like*, *weak*, smooth, but often pubescent under a lens, of the same colour as the pileus. **Gills** deeply decurrent, distant, distinct, broad, whitish. Omphalia.

Very delicate but tough. The stem is sometimes firmer, tense and straight. The pileus is sometimes conical and papillate. The colour varies, becoming fuscous and wholly white. *Mich. Gen. t.* 73. *f.* 6. In alpine regions it is sometimes firmer (Fl. Dan. t. 1071. f. 2).

In mossy ground. Common. Aug.–May.

Fries notes that it is found plentifully in burnt places. Spores 3×2 mk. *W.G.S.;* 4–5×2 mk. *B.* Name—*fibula*, a pin. From its shape. *Bull. t.* 186, 550. *f.* 1. *Fr. Monogr.* i. *p.* 192. *Hym. Eur. p.* 164. *Berk. Out. p.* 133. *C. Hbk. n.* 227. *Illust. Pl.* 274. *S. Mycol. Scot. n.* 205. *Sow. t.* 45. *Quel. t.* 4. *f.* 5.

* **A. Swartzii** Fr. is a singular variation of *A. fibula.* Firmer; pileus at length rather plane, whitish, disc fuscous; stem whitish, somewhat violaceous at the apex.

It is remarkable, and in its own localities (groves abounding in springs) a constant form. *Fr. Monogr.* i. *p.* 193. *Hym. Eur. p.* 164. *S. Mycol. Scot. n.* 205. *C. Illust. Pl.* 274. *c.*

354. A. directus B. & Br. *White;* very slender.—**Pileus** nail-shaped, plane at the apex. **Stem** not 2.5 cent. (1 in.) long, thread-like, slightly rufous, ascending, clothed with long hairs towards the base. **Gills** deeply decurrent.

On dead leaves. Chiselhurst, 1865, &c. May–Nov.

Name—*directus*, straight. Straight-stemmed. *B. & Br. n.* 1931. *C. Illust. Pl.* 251. *a.*

355. A. Belliæ Johnst.—**Pileus** 12 mm. (½ in.) broad, of a pale wood-brown hue, membranaceous, inverted, deeply cyathiform, smooth, waved and furrowed at the edge. **Stem** 4 cent. (1½ in.) long, about 2 mm. (1 lin.) thick, fistulose, erect, stiff and elastic, smooth, pale above, brownish below. **Gills** decurrent, 2 mm. (1 lin.) broad, rather distant, thick, more or less undulated, wrinkled on the sides and in the interstices with flexuous veins, once or twice divided near the edge, of a dull chalky white.

Pileus becoming paler when dry. Stem white or very pale wood-brown above, towards the base of a dirty dark brown, becoming paler when dry, then apparently mealy; root slightly incrassated, bent, fixed by a dense cottony web. Spores oblong, colourless, pellucid.

Omphalia.

On dead stems of reed. Berwickshire. Oct.

Name—after Miss Bell. *Johnst.—Berk. Ann. Nat. Hist. Ser.* 1. *Vol.* vi. *t.* 10. *f.* 1. *Out. p.* 134. *C. Hbk. n.* 229. *Illust. Pl.* 251. *Fr. Hym. Eur. p.* 165.

356. A. gracillimus Weinm. *Snow-white.*—**Pileus** 4–6 mm. (2–3 lin.) broad, membranaceous, hemispherical, sometimes papillate, sometimes umbilicate, but never inverted, *flocculose* then becoming smooth, *sulcate at the sides.* **Stem** 6–12 mm. (3–6 lin.) long, delicately fistulose, *bristle-like*, soft, *inserted by a floccose base.* **Gills** decurrent, thin, somewhat distant, the alternate ones dimidiate.

It resembles smaller forms of *A. fibula*, but is always thinner, less tough, withering, *wholly shining white*, and *somewhat flocculose when young.* In many particulars it agrees with *A. stellatus*, but is thinner, and is certainly distinct in the form of the pileus, which is at first floccose, and in the thin gills.

In marshy ground on decaying stems. Rare. Aug.

Spores 6–7 × 3 mk. *B.* Name—*gracilis*, slender. *Very slender. Weinm. Ross. p.* 121. *Fr. Monogr.* i. *p.* 193. *Hym. Eur. p.* 165. *Icon. t.* 75. *f.* 5. *B. & Br. n.* 1112. *C. Hbk. n.* 228. *Illust. Pl.* 252. *S. Mycol. Scot. n.* 207.

357. A. bullula Brig. Wholly shining white.—**Pileus** membranaceous, hemispherical, diaphanous. **Stem** very thin, filiform. **Gills** far apart, arcuato-decurrent.

Very small. Scattered.

On dead sticks. Coed Coch.

Name—*bullula*, a watery vesicle. From its diaphanous appearance. *Brig. t.* xvi. *f.* 1. *B. & Br. n.* 1753. *C. Illust. Pl.* 252. *b.*

** Integrelli. *Gills fold-like, narrow.*

358. A. integrellus Pers. *Wholly white.*—**Pileus** 4–6 mm. (2–3 lin.) broad, membranaceous, conical when young, soon hemispherical, most frequently irregularly shaped, when flattened 12 mm. (½ in.) broad and depressed at the disc, striate at the margin. **Stem** as much as 2.5 cent. (1 in.) long, delicately fistulose, thin but *slightly firm*, pilose downwards and adnate often with a small villous bulb at the base. **Gills** decurrent, *narrow*, *in the form of folds*, *distant*, commonly disappearing short of the margin of the pileus, equal or branched, acute at the edge.

The stem is incurved when growing on wood. The gills are equal or branched as in *Cantharelli*, but with an acute edge. Small, commonly fasciculate (especially on wood), fragile, changeable in form.

In shady places, on decayed sticks, &c. Uncommon. Oct.–Nov.

Spores 6–7×4 mk. *B.* Name—*integer*, whole. Minute but perfect. *Pers.* Omphalia. *Ic. & descr. t.* 13. *f.* 5. *Fr. Monogr.* i. *p.* 193. *Hym. Eur. p.* 165. *Icon. t.* 75. *f.* 6. *Berk. Out. b.* 134. *C. Hbk. n.* 230. *Illust. Pl.* 252. *S. Mycol. Scot. n.* 208.

A. buccinalis Sow. *t.* 107. An uncertain species. Fries (*Hym. Eur. p.* 162) says it approaches *A. stellatus* chiefly in the stellate base, but from the slightly fleshy pileus it is perhaps a young form of *A. umbelliferus*. Berkeley (*B. & Br. n.* 1930*) says, "This is certainly no form of *A. umbelliferus;* and it is too fleshy to be the same as *A. stellatus*. It is, as Sowerby says, not uncommon. It has the habit of *A. ptychophyllus* Cd., a species not noticed by Fries; but the gills are not plicate." *C. Illust. Pl.* 272. *a.*

Subgenus IX. **PLEUROTUS** (πλευρόν, a side; οὖς, an ear). Fr. Pleurotus. Syst. Myc. i. p. 178. Stem excentric, lateral, or none. *Epiphytal (very rarely growing on the ground), irregular, fleshy or membranaceous.*

X. Agaricus (Pleurotus) corticatus. One-sixth natural size.

The Pleuroti are very easily distinguished from the subgenera with cartilaginous stems (VI.-VIII.); but from the other subgenera, which have the hymenophore continuous with the stem (III.-V.), they are only distinguished by their place of growth being on wood. For many Pleuroti of the first section when growing vertically—*e.g., A. corticatus, ulmarius, spodoleucus*—have the stem central and the pileus regular and horizontal. On the contrary, various species of Clitocybæ and Omphaliæ in a slanting situation, especially on the sides of roads, vary in form and become excentric and oblique. Among the *Lactarii, Cantharelli, Marasmii*, and all the last genera of the Agaricini, there are also forms analogous to the Pleuroti. *Fr. Hym. Eur. p.* 166.

The species are very polymorphous. Usually late in the year (but *A. ostreatus* also occurs in spring). Most are mild, and some—*e.g., A. ulmarius, tessulatus, ostreatus*—are edible.

I. Excentrici. Pileus entire, laterally extended, excentric, so that here and there it appears lateral; but more attentively observed there is noticed even

Pleurotus.

on the mutilated side a thin margin whereby forms of this sort differ from truly dimidiate species.

* *Veil forming a ring.* Lepiotarii.

** *Veil none, gills sinuate or obtusely adnate.*

*** *Veil none; gills deeply decurrent; stem distinct, somewhat vertical.*

**** *Veil none; gills deeply decurrent; pileus* (seemingly) *lateral, sessile or extended behind into a short, oblique, stem-like base.*

II. Dimidiatæ. Pileus definitely lateral, *immarginate behind*, not at the first resupinate.

III. Resupinati. Pileus at the first *resupinate*, with the gills meeting in an excentric point, then reflexed, sessile.

* *Pileus fleshy, uniform.*

** *Pileus fleshy, striate, with an upper gelatinous stratum or viscous pellicle.*

*** *Pileus membranaceous, not viscid.*

I.—Excentrici.

* *Veil forming a ring.*

359. A. corticatus Fr.—**Pileus** 5–15 cent. (2–6 in.) broad, grey then whitish, very *compact*, convex then flattened, somewhat disc-shaped, horizontal, *always entire*, although excentric, when young everywhere covered with dense grey down, which separates into floccose scales on the whitish pileus when it is more flattened, margin when young closely involute; flesh hard, shining white. **Stem** 2.5–7.5 cent. (1–3 in.) long, 2.5 cent. (1 in.) thick, stout, solid, hard, rooted, *more or less excentric*, curved-ascending, somewhat equal, squamuloso-fibrillose, white. Ring silky-floccose, moderately thick, white, ruptured in a torn manner, adhering alike to the stem and the margin of the pileus, at length vanishing. **Gills** deeply decurrent, *anastomosing behind*, also dichotomously branched, somewhat distant, distinct, white, or becoming yellow when old.

Very compact and hard. Commonly solitary, sometimes cæspitose. The down with which the pileus is covered corresponds with the universal veil of the *Lepiotæ*. The flesh is not so thick as that of *A. dryinus*. The gills anastomose behind like those of *A. ostreatus*, and vary in breadth according to stature.

On decayed ash, elm, &c. Uncommon. Sept.–Oct.

Smell rather strong. Perhaps too closely allied to *A. dryinus*. *B. & Br.* Spores 14×6 mk. *W.G.S.*; 12–14×4 mk. *B.* Name—*cortex*, bark. From its thick covering. *Fr. Monogr.* i. *p.* 236. *Hym. Eur. p.* 166. *B. & Br. n.* 995 (not Saund. & Sm.) *C. Hbk. n.* 109. *Illust. Pl.* 290. *S. Mycol. Scot. n.* 209.

360. A. dryinus Pers.—**Pileus** 5 cent. (2 in.) broad, whitish, *variegated with spot-like scales which become fuscous*, lateral, ob-

lique, rather plane; flesh thick. **Stem** very curt and obese, com- Pleurotus.
monly 2.5 cent. (1 in.) long and thick, somewhat lateral, somewhat woody, squamulose, white, with a short, blunt root. Veil scarcely conspicuous on the stem, but appendiculate round the margin of the pileus when young. **Gills** not very decurrent, *somewat simple*, not anastomosing behind, narrow, white, becoming yellow when old.

The veil is almost that of *A. corticatus*. The flesh is the same but thicker, and not so much thinned out towards the margin. The gills are narrower and less distant, but both agree in the gills becoming yellow when old. In reality it is allied to *A. corticatus*, but *the stem is definitely lateral;* otherwise smaller, *harder and more brawny*.

On trunks, oak, ash, willow, &c. Uncommon. Sept.–Oct.

Pileus 18 mm.–7.5 cent. (¾–3 in.) broad, margin involute. Stem 7.5 cent. (3 in.) high (in my specimens elongated from growing in a hollow ash), attenuated downwards. The plant assumes partially a yellowish tint when dry or cut. *M. J.B.* I have seen the plant growing in a hollow ash with the features exactly as described by Berkeley. Spores 3×4 mk. *W.G.S.* Name—δρῦς, oak. From its most frequent habitat. *Pers. Syn. p.* 478. *Fr. Monogr.* i. *p.* 237. *Hym. Eur. p.* 167. *Berk. Eng. Fl.* v. *p.* 70. *Out. p.* 134. *C. Hbk. n.* 110. *Illust. Pl.* 226. *S. Mycol. Scot. n.* 210. *Hussey* ii. *t.* 29, 33. *Vent. t.* 44. *f.* 1, 2. A. dimidiatus *Schæff. t.* 233.

361. A. spongiosus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, tomentose with persistent cinereous down, fleshy, excentric, somewhat lateral, pulvinate; flesh laxly floccose, white. **Stem** very short, scarcely 2.5 cent. (1 in.) long, or sometimes almost none, incurved, not rooted, very excentric, white, tomentose. Ring white, soon torn, appendiculate at the margin of the pileus, at length quite vanishing. **Gills** sinuato-adnexed, with a decurrent tooth, simple, separate, but crowded, quite entire, white.

The flesh is soon pierced by insects like that of *A. ostreatus*. The gills vary in breadth with the age of the plant. It seems to be widely removed from *A. dryinus*, &c., in the *substance being fleshy-spongy* like that of *A. ostreatus*, but still softer, as well as in the *gills being sinuato-adnexed*, but the veil is quite the same. A very remarkable species.

On rotten beech and mossy stumps. Rare. Oct.–Nov.

The gills become beautifully yellow when old and dried. At a little distance it has exactly the appearance of *Polyporus betulinus*. Fries notes that it grows among moss, on living beech trunks. Spores 11×4 mk. *W.G.S.* Name—*spongia*, a sponge. From its texture. *Fr. Monogr.* i. *p.* 237. *Hym. Eur. p.* 167. *B. & Br. n.* 1218. *C. Hbk. n.* 111. *Illust. Pl.* 253. *S. Mycol. Scot. Supp. Scot. Nat.* 1885. *p.* 21.

*** Veil none, gills sinuate or obtusely adnate.*

362. A. ulmarius Bull.—**Pileus** 7.5–12.5 cent. (3–5 in.) and more broad, *becoming pale-livid*, often marbled with round spots, fleshy,

Pleurotus.

compact, horizontal, moderately regular although more or less excentric, convex then plane, disc-shaped, even, smooth; flesh white, tough. **Stem** 5–7.5 cent. (2–3 in.) long, 2.5 cent. (1 in.) thick, solid, firm, *elastic*, somewhat excentric, curved-ascending, *thickened* and tomentose *at the base*, not rarely villous throughout, white. **Gills** horizontal, *emarginate* or rounded *behind*, slightly adnexed, broad (broader in the middle), somewhat crowded, whitish.

The pileus is sometimes cracked in a tesselated manner. Among the larger and more robust species, with a slightly acid odour which is not unpleasant. Commonly solitary. Pileus ochrey white, *Price f.* 83. B. Vertical, with a central stem.

On trunks, especially elm. Uncommon. Sept.–Dec.

Spores 6 mk. *W.G.S.* Edible, but so uncommon as to be of little value. Name—*ulmus*, elm. *Bull. t.* 510. *Fr. Monogr.* i. *p.* 239. *Hym. Eur. p.* 167. *Berk. Out. p.* 134. *B. & Br. n.* 1853*. *C. Hbk. n.* 112. *Illust. Pl.* 227. *S. Mycol. Scot. n.* 211. *Sow. t.* 67. *Vittad. Mang. t.* 23. *Fr. ätl. Svamp. t.* 37.

363. A. tessulatus Bull.—**Pileus** *becoming pale-tawny*, horizontal, compactly fleshy, convex then plane, and in a form which is somewhat lateral depressed behind, irregular, even, smooth, *variegated* with round and hexagonal paler *spots;* flesh thick, white. **Stem** short, 2.5 cent. (1 in.) or little more long, solid, *compact*, *equal* or attenuated at the base, very excentric, curved-ascending, even, *smooth*, white. **Gills** *sinuate behind*, uncinato-adnate, thin, *crowded*, white or becoming yellow.

Solitary; according to some cæspitose. The pileus is not cracked in a tesselated manner, as one might easily imagine from the name, but variegated with spots. Smaller than *A. ulmarius* (to which it is too closely allied), but almost more compact, with a smell of new meal.

On trunks. Coed Coch, &c.

Name—*tessela*, a small cube for pavement. From the tesselated markings on the pileus. *Bull. t.* 513. *f.* 1. *Fr. Monogr.* i. *p.* 239. *Hym. Eur. p.* 168. *B. & Br. n.* 1853*. *C. Illust. Pl.* 254. *Pers. Myc. Eur.* 3. *n.* 65. *t.* 23. *f.* 4.

364. A. subpalmatus Fr. Wholly more or less *rufescent.*—**Pileus** 5–10 cent. (2–4 in.) broad, fleshy, but *in no wise compact*, convex then flattened, obtuse, imbricated and glued together, horizontal, more or less excentric, smooth, but *clothed with a thick, gelatinous-tough, closely adnate pellicle*, which distils limpid rufescent drops with an astringent taste; towards the margin, which is at first involute, the pellicle is reticulato-corrugated. **Stems** 2.5–5 cent. (1–2 in.) long, 12 mm. (½ in.) thick, numerous, solid, but *fibrous-soft*, and at length also hollow, *equal*, curved-

ascending, smooth, but "fibrilloso-striate," variegated with white and flesh-colour. **Gills** rounded behind, joined in a collar, not adnate to the stem itself, broad, crowded, rufescent, paler than the pileus. Pleurotus.

Cæspitose. A very remarkable species, with the flesh variegated like that of *Fistulina*.

On squared timber, trunks, &c. Rare. Oct.–Nov.

Pileus of a beautiful pale orange-buff or nankeen colour, pruinose; margin beautifully reticulated like the hymenium of a *Merulius*. *M.F.B.* Spores 4×6 mk. *W.G.S.*; spherical, finely granular, 7 mk. *Q.* Name—*sub*, and *palma*, palm. Somewhat palmate. *Fr. Monogr.* i. *p.* 240. *Hym. Eur. p.* 168. *Berk. Out. p.* 135. *C. Hbk. n.* 113. *Illust. Pl.* 255. A. palmatus *Sow. t.* 62, not Bull. *Berk. Eng. Fl.* v. *p.* 73.

365. A. craspedius Fr.—**Pileus** as much as 7.5–12.5 cent. (3–5 in.) broad, *brick-colour*, more or less excentric, sometimes somewhat lateral, but marginate behind, fleshy, *thin* and at length almost membranaceous towards the margin, flaccid, plane, depressed behind when very excentric, even, smooth, somewhat moist, but *without* a separable *pellicle;* margin at first involute, then evolute, *elegantly crenato-lobed* and fimbriate; flesh thin, watery, white when dry. **Stem** in some 2.5 cent. (1 in.), in others as much as 7.5 cent. (3 in.) long and then twisted or compressed, 1–2.5 cent. (½–1 in.) thick, solid, firm, *elastic, internally spongy*, very unequal, sometimes thickened at the base, sometimes equal, *pallid*, commonly smooth or slightly villous at the base. **Gills** *wholly adnate*, not sinuate, obtuse behind, very thin, crowded and narrow, at length lacerated, shining white.

With autumn rain the pileus becomes pale-tan, sometimes cinereous. Cæspitose. It connects in a remarkable manner species which are otherwise very different, on the one hand *A. ulmarius* and *A. palmatus*, and on the other *A. fimbriatus* and *A. lignatilis;* it has the robust stem and habit of the former, but the thin pileus and very narrow very crowded gills of the latter.

On trunks and rotten wood. Ratton, Eastbourne, 1852. Sept.

Var. Pileus pale fawn-colour, regularly and broadly furrowed, concave when full grown, the centre covered with radiating adpressed tomentum; stem pale buff, very stout, thick, solid and excentric, curving upwards and covered with velvet-like pubescence; gills pale pinkish-white or cream-coloured; flesh white. Much eaten by slugs. *W.G.S.* Name—*crassus*, thick; *pes*, a foot. Thick-stemmed. *Fr. Monogr.* i. *p.* 241. *Hym. Eur. p.* 169. *Icon. t.* 86. *f.* 2. *B. & Br. n.* 1219. *C. Hbk. n.* 114. *Illust. Pl.* 256. Var. *Saund & Sm. t.* 7.

366. A. fimbriatus Bolt.—**Pileus** *hyaline, whitish, hygrophanous, slightly fleshy*, convexo-plane when young, at length *infundibuliform*, more or less excentric, occasionally lateral, *margin* very *sinuato-lobed* and incised, the surface when full grown even and

Pleurotus. smooth; flesh thin, tough, watery-pallid. **Stem** very short, about 12 mm. (½ in.) long, 4–10 mm. (2–5 lin.) thick, stuffed then hollow, somewhat equal, round or compressed, tough, even, pubescent at the base. **Gills** wholly *adnate*, horizontal, at length ascending and divergent in the lobes of the reflexed pileus, very narrow, *very thin*, very *crowded*, white.

Very polymorphous, gregarious, somewhat cæspitose. A remarkable species; from its most manifest affinity with *A. lignatilis*, it may readily be believed that the pileus is at first pruinose. Odour of new meal, obsolete.

On dead trunks. Rare. Aug.–Jan.

Pileus about 7.5 cent. (3 in.) broad. In the figure of Bolton the pileus is more crisped-fimbriate than in the specimens of Fries. Esculent, but so rare that it is valueless. Name—*fimbriæ*, fringe. With *fringed* margin. *Bolt. t.* 61. *Fr. Monogr.* i. *p.* 242. *Hym. Eur. p.* 169. *Berk. Out. p.* 135. *B. & Br. n.* 672*. *C. Hbk. n.* 115. *Illust. Pl.* 178. *Sterb. t.* 15. *B.*

367. A. Ruthæ B. & Br.—**Pileus** 4 cent. (1½ in.) broad, whitish, fan-shaped, slightly hispid above the gelatinous stratum, the very thin margin striate. **Stem** short, lateral, hispid. **Gills** white, rather broad, acute behind, anastomosing, with a reddish tinge like that of the stem, interstices veined.

The pileus is of a dirty white, with a hyaline aspect. Mycelium fibrous.

On sawdust. Coed Coch, 1878. Oct.

Name—after Miss Ruth Berkeley. *B. & Br. n.* 1754. *C. Illust. Pl.* 178. 2.

368. A. lignatilis Fr. Dingy whitish.—**Pileus** 2.5 to 7.5–10 cent. (1 to 3–4 in.) broad, rarely central, commonly more or less excentric, occasionally wholly lateral, often reniform, fleshy, thin, but compact and tough, fissile, convex then plane, obtuse and often umbilicate, *flocculoso-pruinate*, at length denuded with rain, repand, margin at first involute then expanded, undulato-lobed when luxuriant. **Stem** sometimes 5–7.5 cent. (2–3 in.) sometimes 6–8 mm. (3–4 lin.) long (even obliterated), *stuffed then hollow*, always *thin*, unequal, curved or flexuous, tough and flexile, whitish, everywhere pruinato-villous, rooting and somewhat tomentose at the base. **Gills** *adnate*, very *crowded* and narrow, unequal, divergent in the lobes, shining white.

Exceedingly variable, wholly inconstant in form; *substance thin and pliant;* commonly densely cæspitose, but also single. Odour strong of new meal. Of its many forms one is conspicuous: var. *tephrocephalus*, pileus more compact, disc black, then cinereous, margin white.

On wood, beech, &c. Burnham Beeches, 1863, &c.

Parasitic on a rotten plant of *Polyporus annosus* on elm. *W.G.S.* Spores subsphæroid, 4–5 mk. *K.*; 3×4 mk. *W.G.S.* Name—*lignum*, wood. Grow-

ing on wood. *Fr. Monogr.* i. *p.* 243. *Hym. Eur. p.* 169. *B. & Br. n.* 996. *C. Hbk. n.* 116. *Illust. Pl.* 257. *a. S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 22. *Saund. & Sm. t.* 6. *f.* 2. *Fl. Dan. t.* 1797. Ag. Marklini *Tratt. Austr. t.* 28. Pleurotus.

369. A. circinatus Fr. *Wholly white*, not hygrophanous.—**Pileus** about 7.5 cent. (3 in.) broad, *orbicular*, horizontal, fleshy, tough, convex then plano-disc-shaped, obtuse, even, but *covered over with a shining whitish slightly silky lustre*. **Stem** 2.5–5 cent. (1–2 in.) long, 6–8 mm. (3–4 lin.) thick, *stuffed, elastic*, equal, *central* or slightly excentric, commonly *straight*, *smooth*, bluntly-rooted at the base. **Gills** adnate, slightly decurrent, crowded, broad (as much as 6 mm., 3 lin.), white.

An exceedingly distinct species. *Regular*, solitary, with a weak, pleasant, not mealy odour. The pileus is a little thicker than that of *A. lignatilis*, but less compact; the gills are twice as broad. As *A. lignatilis* is changeable, this is always constant in form.

On rotting birch stump. Rare. Oct.

Name—*circino*, to make round with compasses. From its very regular orbicular shape. *Fr. Monogr.* i. *p.* 244. *Hym. Eur. p.* 170. *Icon. t.* 88. *f.* 1. *B. & Br. n.* 1220. *C. Hbk. n.* 117. *Illust. Pl.* 257. *b.*

**** Veil none; gills deeply decurrent; stem distinct, &c.*

370. A. pantoleucus Fr. Wholly *white*.—**Pileus** as much as 7.5 cent. (3 in.) long, about 5 cent. (2 in.) broad, fleshy, excentric, dimidiate, spathulate and slightly convex, even, smooth, somewhat depressed and marginate behind; margin equal, entire. **Stem** 2.5 cent. (1 in.) or a little more long, 12 mm. (½ in.) and more thick, solid, *ascending*, very excentric, equal or attenuated downwards, *not rooted*, even, smooth. **Gills** decurrent, somewhat crowded, simple, separate at the base.

The disc of the pileus is often opaque. Solitary, firm. There is a smaller form with the pileus more regular and somewhat umbilicate.

On trunks, willow, &c. Coed Coch, 1881. Oct.

Spores 8–10 × 3–4 mk. *W.P.* Name—πᾶς, all; λευκός, white. *Fr. Hym. Eur. p.* 172. *Icon. t.* 88. *f.* 2. *B. & Br. n.* 1932. *C. Illust. Pl.* 179, 275. A. spodoleucus albus *Fr. Monogr.* i. *p.* 246, 473.

371. A. mutilus Fr. Wholly *white*.—**Pileus** very excentric or wholly lateral, *slightly fleshy*, soft, tough, reniform, spathulate, &c., depressed behind, somewhat umbilicate, otherwise ascending, *silky when dry*, becoming smooth. **Stem** 6–8 mm. (3–4 lin.) and more long, 2–4 mm. (1–2 lin.) thick, *erect* or ascending, excentric or somewhat lateral, *round*, solid, tough, smooth except at the

Pleurotus. villous base. **Gills** decurrent, *somewhat crowded, narrow*, rather thick, simple.

Exceedingly changeable in form, but most distinct from the rest, *thin*, for the most part springing from an effused flaxy mycelium which is of the same colour.

On grassy open hillside. Penzance, 1869, &c. Aug.–Dec.

Name—*mutilus*, maimed. Perhaps from its variety of form. *Fr. Monogr.* i. *p.* 247. *Hym. Eur. p.* 173. *Icon. t.* 88. *f.* 4. *B. & Br. n.* 1221, 1647. *S. Mycol. Scot. n.* 212. *C. Illust. Pl.* 275. Omphalomyces mutilus *Batt. t.* ix. *f. e.*

**** *Veil none; gills deeply decurrent; pileus sessile, &c.*

372. A. ostreatus Jacq.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, when young almost becoming black, soon *becoming pale*, fuscous-cinereous, passing into yellow when old, fleshy, *soft, conchate*, somewhat dimidiate, *ascending*, smooth, moist, even, but sometimes with the cuticle torn into squamules. **Stem** shortened or obliterated, firm, elastic, ascending obliquely, *thickening upwards*, white, strigoso-villous at the base. **Gills** *decurrent, anastomosing behind, somewhat distant*, broad, white, sometimes turning light yellow, *and without glandules.*

For the most part cæspitose, imbricated, very variable, sometimes almost central. The pileus is at first convex and horizontal, then expanded and ascending. In the anastomosing gills it agrees with *A. corticatus* and *A. glandulosus*, and differs from all neighbouring species. There are numerous varieties: *flavo virens* Brig. t. 44. f. 1–3, *melanodon* Brig. t. 45. f. 1–3. *Inzenga t.* 4. *f.* 2, small, single, pileus black. There is another more remarkable form with the stem distinct and the pileus horizontal. *Fl. Dan. t.* 891. *Vivian. t.* 42.

On trees, especially laburnum. Frequent. Autumn–Spring.

Berkeley notes having seen the species with glandular gills. He also describes the gills as serrated and umber at the edge. Badham describes the gills as "standing out sharp and erect like the fine flutings of a column, winding down the stalk to different lengths, and those that reach the bottom forming there a beautiful raised meshwork highly characteristic." Known as the Oyster fungus, but this is from its shape, not its taste. Long celebrated for its esculent qualities. *Clus. Esc. gen.* vi. It must be carefully distinguished from *A. euosmus* which is unsafe. Remarkable for enduring cold. Spores 8×4 mk. *W.G.S.* Name—*ostrea*, oyster. From its shape. *Jacq. Austr. t.* 288. *Fr. Monogr.* i. *p.* 245. *Hym. Eur. p.* 173. *Sverig. ätl. Sv. t.* 46. *Berk. Eng. Fl.* v. *p.* 71. *Out. p.* 135. *C. Hbk. n.* 118. *Illust. Pl.* 195. *S. Mycol. Scot. n.* 213. *Sow. t.* 241. *Hussey* ii. *t.* 19. *Badh.* i. *t.* 2. ii. *t.* 10. *Vittad. Mang. t.* 4. *Krombh. t.* 41. *Ventur. t.* 17. *Brig. t.* 43. *f.* 1, 2. A. dimidiatus *Bull. t.* 508.

373. A. euosmus Berk.—**Pileus** 7.5 cent. (3 in.) broad, at first white, invested with a light blue varnish, at length of a light brown, depressed, shining and satiny when dry. **Stems** short or obsolete, confluent. **Gills** very decurrent, rather broad, ventricose, dingy white.

Imbricated, *strong-scented*. Pilei very much crowded. Stem distinct above, connate below. Gills running down to the bottom of the free portion of the stem. Spores oblong, narrow, oblique, whitish, tinged with pink. Somewhat resembling *A. ostreatus*, but distinguished by its peculiar scent like that of tarragon, and by its pale lilac spores. Not esculent. Pleurotus.

On elm posts and stumps. Uncommon. Spring-Autumn.

On the authority of Berkeley, who still regards it as a good species, belonging to *Leucospori* (as exceptional) notwithstanding the tinge of colour in the spores, I retain it here. Name—εὔοσμος, sweet-smelling. *Berk. Out. p.* 135. *B. & Br. n.* 326. *S. Mycol. Scot. n.* 214. *Hussey* i. *t.* 75. *Fr. Hym. Eur. p.* 174. A. (Claudopus) euosmus *C. Hbk. n.* 271. A. ostreatus var. euosmus *C. Illust. Pl.* 196.

374. A. revolutus Kickx.—**Pileus** at first smoky then lead and mouse colours, darker in the centre, fleshy, firm, elastic, convexo-plane, smooth, slightly shining, depressed behind, *margin incurved*. **Stem** curt, thick, smooth or pubescent. **Gills** decurrent, distinct, *serrulated*, white.

Solitary, or a few joined together. It seems too closely allied to *A. salignus*.

On trunks, poplar, &c. Penzance.

It is clearly the same with *A. corticatus* Saund. & Sm. t. 4, f. 2. The stem is short, but distinct and swollen. *B. & Br.* Fries regarded *A. corticatus* Saund. & Sm. as a remarkable variety of *A. salignus*, an opinion which must give place to that of Berkeley. Name—*revolutus*, unrolled. From the unrolling of the involute margin. *Kickx. p.* 158. *Fr. Hym. Eur. p.* 174. *B. & Br. n.* 1933. *C. Illust. Pl.* 180. A. corticatus *Saund. & Sm. t.* 4. *f.* 2.

375. A. salignus Abb. d. Schw.—**Pileus** 5–7.5 cent. (2–3 in.) broad, fuliginous-cinereous or ochraceous, fleshy, compact, *spongy*, somewhat dimidiate, *horizontal*, at first pulvinate, even, at length depressed behind and here and there strigose, the incurved margin entire. **Stem** always short, firm, more or less tomentose. **Gills** horizontal, hence less manifestly decurrent, separate behind, but *branched in the middle*, crowded, dingy, often eroded at the edge, not glandular.

Among the larger and firmer species. Solitary, scarcely ever cæspitose. It is commonly confounded with *A. ostreatus*, but is certainly a different species. Although the stature is in general the same, it is easily distinguished by the pileus being compact, and more pulvinate when young, then depressed, by the *gills* being thinner, more crowded, somewhat branched, but *not anastomosing* behind, and dingy-fuliginous; the *spores* also are *dingy*.

On trunks, willow, alder, &c. Uncommon. Sept.–Jan.

Spores oblong or cylindrical-oblong, 14–15 mk. *K.*; 8×4 mk. *W.G.S.*; 8–10×3–4 mk. *B.* Name—*salix*, willow. *Abbild. d. Schwäm. fasc.* 3. *Fr. Monogr.* i. *p.* 246. *Hym. Eur. p.* 174. *Berk. Out. p.* 136. *C. Hbk. n.* 119. *Illust. Pl.* 228. *S. Mycol. Scot. n.* 215. *Letell. t.* 687. *Tratt. Austr. t.* 8.

376. A. acerinus Fr. *Shining white.*—**Pileus** 2.5–10 cent. (1–

Pleurotus. 4 in.) broad, fleshy, thin, unequal, *silky-villous*, not hygrophanous. **Stem** somewhat lateral, thin or obsolete, *villous*. **Gills** decurrent, very crowded, thin, white, then becoming yellow.

Tough. Allied to *A. lignatilis*.

On plane and ash. Walthamstow, &c.

Name—*acer*, maple. *Fr. Hym. Eur. p.* 175. *B. & Br. n.* 2000. *C. Illust. Pl.* 291.

II.—DIMIDIATI.

377. A. petaloides Bull.—**Pileus** 2.5–5 cent. (1–2 in.) long, *fuscous*, becoming pale, dimidiate, fleshy, but in no wise compact, rather plane, *somewhat spathulate*, continuous with the stem and *depressed behind*, hence the villous down of the stem ascends to this point (the disc) of the pileus, otherwise smooth, even, margin at first involute, then expanded. **Stem** about 12 mm. (½ in.) long, sometimes however very short, solid, firm, *compressed, channelled* when larger, more or less villous, whitish. **Gills** *decurrent, very crowded*, very narrow (scarcely beyond 2 mm. broad), linear, very unequal, white then cinereous.

XI. Agaricus (*Pleurotus*) *mitis*. Natural size. Section three times natural size.

Taste bitter. The form on wood is somewhat horizontal, gregarious, here and there imbricated. B. spathulatus *Pers. Obs.* i. *t.* 4. *f.* 1, erect, growing on the ground. The stem is channelled especially in the variety. It varies much even in colour; the forms growing on the ground, which are somewhat vertical with the margin reflexed, are especially remarkable, and smaller specimens almost pass into *A. tremulus*. In one most remarkable form the pileus is red: *Lère in Pers. M. E.* 3. *t.* 25. *f.* 6.

On stumps and on the ground. Rare.

Spores 8 × 4 mk. *W.G.S.* Name—from fancied resemblance in shape to the petal of a flower. *Bull. t.* 226, 557. *f.* 2. *Fr. Monogr.* i. *p.* 248. *Hym. Eur. p.* 175. *Berk. Out. p.* 136. *C. Hbk. n.* 120. *Illust. Pl.* 258. *a. Ventur. t.* 44. *f.* 5, 6.

378. A. pulmonarius Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *cinereous*, continuous with the stem, fleshy, soft, but tough, *flaccid*, *obovate* or reniform, plane or reflexo-conchate at the margin, even, *smooth;* flesh thin, soft, white. **Stem** very short, solid, exactly lateral, *horizontal* or ascending, *round, villous*, expanded into the pileus. **Gills** decurrent but *ending determinately, moderately*

broad, distinct, not branched or anastomosing at the base, livid or *cinereous*. Pleurotus.

The primary form is solitary. The pileus is cinereous-tan when dried. It differs from *A. salignus* alike in the definitely lateral stem, and in the thin flaccid pileus. Var. *Juglandis* cæspitose, smaller, attenuato-sessile at the base, becoming fuscous.

On trunks. Aberdeen Fungus Show, 1874. Sept.

Spores 8–10 × 2–3 mk. *B.* Name—*pulmo*, lung. From its texture. *Fr. Monogr.* i. *p.* 248. *Hym. Eur. p.* 176. *B. & Br. n.* 1522. *S. Mycol. Scot. n.* 216. *Paul. t.* 21. Var. Juglandis *Fr. Icon. t.* 87. *f.* 2.

379. A. serotinus Schrad.—**Pileus** 1–7.5 cent. (½–3 in.) broad, yellow-green, fuliginous-olivaceous, &c., *thick*, at first gibbous-convex, then plane and ascending, reniform or obovate, even, smooth, *covered with a pellicle which is viscous in wet weather;* margin at the first shortly involute, at length expanded, somewhat repand; flesh whitish. **Stem** not exceeding 2.5 cent. (1 in.) long, but most frequently shorter and obliterated, lateral, solid, *thick*, irregularly shaped, *becoming yellow, dotted with fuliginous squamules*, which are crowded into a fuliginous zone near the gills. **Gills** ending determinately, not truly decurrent, narrow, crowded, often branched, typically light yellow.

The stem is rarely fringed with lobes all round as if the pileus extended on all sides. The gills appear as if decurrent when the pileus is arched or conchate. They vary in colour, more rarely pallid and flesh colour, also with the edge dotted-fuliginous from the squamules of the stem ascending upon them. The flesh is almost tasteless. Gregarious or imbricato-cæspitose, very fleshy, compact when young, then softer. Widely distinct from all others.

On trunks, ash and birch. Uncommon. Nov.–Dec.

Name—*serotinus*, late. *Schrad. in Abbild. d. Schwämm.* 3. *Fr. Monogr.* i. *p.* 249. *Hym. Eur. p.* 176. *Berk. Out. p.* 136. *C. Hbk. n.* 121. *Illust. Pl.* 258. *b. S. Mycol. Scot. n.* 217. A. stipticus var. *Fl. Dan. t.* 1293. *f.* 2.

380. A. mitis Pers.—**Pileus** about 12 mm. (½ in.) broad, rufescent or whitish, slightly fleshy, continuous with the stem in a straight line (not reflexed) and horizontal, *reniform*, even, smooth, and without a viscid pellicle; flesh thin, pliant, white. **Stem** 12 mm. (½ in.) long, sometimes however very short, solid, definitely lateral, *compressed and dilated upwards*, sprinkled with *white* mealy *squamules*. **Gills** ending definitely, very crowded, linear-lanceolate, simple, white.

Gregarious, but scarcely ever cæspitose, tough, insipid. In form and stature it is like *Panus stipticus*, which is cinnamon, coriaceous, distinct in its gills being connected by veins, &c.

On dead fir, &c. Common. Autumn–Winter.

Pleurotus.

The stem becomes at length obsolete, and the pilei overlap each other. Name—*mitis*, mild. From its insipid taste. *Pers. Syn. p.* 481 (but not the fig. in Obs. Myc.) *Fr. Monogr.* i. *p.* 249. *Hym. Eur. p.* 177. *Berk. Out. p.* 136. *t.* 6. *f.* 9. *C. Hbk. n.* 122. *Illust. Pl.* 258. *b. S. Mycol. Scot. n.* 218.

381. A. gadinoides Sm. Whole plant white.—**Pileus** rather fleshy, tender, dimidiate, clothed with fine adpressed flocci, hygrophanous, with no gelatinous upper stratum. **Stem** minute, lateral or none. **Gills** somewhat crowded, slightly branched.

Allied to *A. mitis*. Spores 8 × 3 mk.

On tree-fern stems. Chelsea, 1872. May.

Name—from *Gadinia*, the name of a beautiful white bivalve. *Smith in Journ. Bot.* 1873. *p.* 65. *C. Illust. Pl.* 276. *a.*

382. A. limpidus Fr.—**Pileus** about 2.5 cent. (1 in.) hyaline-white when moist, shining white when dry, slightly fleshy, *obovate* or reniform, horizontal, even, *smooth*, *hygrophanous*, and without a viscous pellicle, margin very thin, shortly inflexed. No separate stem, but the pileus is narrowed behind into a stem-like base. **Gills** thin, *crowded*, *decurrent at the base*, *white*.

It cannot be confounded with any other, and can only be compared with *A. mitis*. Its habit and substance are almost the same as those of *A. mitis*, but it is *somewhat sessile and wholly shining white*. The rudimentary stem is neither squamulose nor villous. The gills are decurrent on the stem-like base, but end determinately. Taste mild.

On old ash-stump. Penzance, &c.

Name—*limpidus*, clear, pellucid. *Fr. Monogr.* i. *p.* 250. *Hym. Eur. p.* 177. *Icon. t.* 88. *f.* 3. *B. & Br. n.* 2001. *C. Illust. Pl.* 276.

383. A. reniformis Fr.—**Pileus** 6–10 mm. (3–5 lin.) broad, *cinereous*, slightly fleshy, *horizontal*, *reniform*, plane, emarginate behind, the regular margin entire, spreading; flesh very thin, *somewhat gelatinous*, diaphanous. **Stem** a very short villous rudiment. **Gills** running out *from the stem-like tubercle*, and divergent, thin, linear, grey.

On branches of silver-fir, &c. Glamis, 1877, &c. Aug.–Oct.

Name—*renes*, the kidneys; *forma*, form. Kidney-shaped. *Fr. Hym. Eur. p.* 177. *Icon. t.* 89. *f.* 3. *B. & Br. n.* 1648. *S. Mycol. Scot. n.* 219. *C. Illust. Pl.* 276.

384. A. lauro-cerasi B. & Br.—**Pileus** rather more than 2.5 cent. (1 in.) broad, brown, oyster-shaped, sulcate, cuticle very thin. Stem obsolete. **Gills** connected by veins.

The cuticle is extremely thin, and gives way at the furrows, so as to expose the substance of the pileus.

On the naked trunk of a laurel. Coed Coch, 1879. Oct. Pleurotus.

Spores ovate, .0008 millim. long. *B. & Br.*; 8×11 mk. *W.P.* Name—*Laurus cerasus*, cherry-laurel. *B. & Br. n.* 1854. *C. Illust. Pl.* 242. *a.*

385. A. tremulus Schæff.—**Pileus** about 12 mm. (½ in.) broad, *fuscous-grey*, becoming pale, hygrophanous, slightly fleshy, dimidiate, somewhat horizontal, *reniform*, *plane*, depressed and often villous behind, otherwise *smooth*, *even*. **Stem** 12 mm. (½ in.) long, sometimes very short, distinct, exactly lateral, *ascending-vertical*, *round*, somewhat thin (4 mm., 2 lin.) and *dilated upwards*, grey. **Gills** *adnate*, or, when the pileus is more evidently depressed, decurrent, but determinate, linear, narrow, *somewhat distant*, very unequal, grey.

Stem fixed to mosses by fibrils at the base. Changeable like neighbouring species. The whole plant stiff. Solitary. There is a remarkable form with the stem slender, 2.5 cent. (1 in.) and more long, 2 mm. (1 lin.) thick, wholly rounded, with the thinner diaphanous pileus 2.5–5 cent. (1–2 in.) broad, here and there infundibuliform, fringed with lobes all round, and with the gills in no wise decurrent.

On the ground, moss, fungi, &c. Rare. Aug.–Dec.

Stem attached to the matrix by a woolly mass. *M. J. B.* Name—*tremulus*, tremulous. *Schæff. t.* 224 (but *f.* 1, 2 with the stem channelled incline to *A. petaloides*). *Fr. Monogr.* i. *p.* 250. *Hym. Eur. p.* 177. *Berk. Out. p.* 137. *C. Hbk. n.* 123. *Illust. Pl.* 242. *S. Mycol. Scot. n.* 220. *Sow. t.* 242.

386. A. acerosus Fr.—**Pileus** *grey*, *silky-white when dry*, membranaceous, reniform, plane, *striate*, *somewhat lobed*. **Stem** very short or obsolete, lateral, somewhat strigose at the base. **Gills** determinate, linear, *crowded*, single, grey.

So protean that it is necessary to describe the primary forms separately: A. Pilei *grey*, *silky-white when dry*, *membranaceous*, *striate when damp*. Stem short, 6 mm. (3 lin.) long, round, strigoso-hispid, as if composed of many together, bearing many small pilei which resemble a lobed pileus 2.5–5 cent. (1–2 in.) broad. Gills horizontal, *determinate*, not decurrent, scarcely somewhat distant, of the same colour as the pileus. B. Pileus membranaceous, plane, reniform or orbicular, most frequently lobed, flaccid, when fresh striate and grey. Stem scarcely 2 mm. (1 lin.) long and broad, lateral, compressed, villous. Gills linear, very narrow, crowded, many unequal, grey. C. Pileus fuscous when moist, hoary when dry, membranaceous, flaccid, reniform, wholly horizontal, depressed behind and strigose at the disc, slightly striate at the margin, undulated, fringed all round when larger. Stem lateral, very short or almost none. Gills decurrent, not very crowded, scarcely 2 mm. (1 lin.) broad, fuscous-cinereous, not becoming pale like the former. D. Horizontal, somewhat sessile with the pileus in a white tomentose mycelium which is effused on mosses, wedge-shaped, wholly glaucous when fresh, fuliginous-fuscous when dry, soft and flaccid, scarcely striate, and only adhering behind to a point, villous. Gills simple, thin, plane, linear. A on fallen fir-twigs in dense woods. B on rotten wood of *Pinus silvestris* in moist places. C on pine-needles, by gravelly waysides. *Bolt. t.* 72. *f.* 3 as regards form. D on *Sphagna* in hilly swamps, not to be confounded with *Cantharellus*

Pleurotus. *muscigenus* or *C. lobatus*. A is the primary form described in *Fr. Syst. Myc.* C, however, may be taken as the typical form of the species.

On decayed wood, lawn, &c. Rare. Aug.–Dec.

Spores 6 mk. *W.G.S.* Name—*acus*, chaff. Chaffy. *Fr. Monogr.* i. *p.* 251. *Hym. Eur. p.* 178. *Icon. t.* 89. *f.* 2. *Berk. Out. p.* 137. *C. Hbk. n.* 124. *Illust. Pl.* 242. *S. Mycol. Scot. n.* 221.

III.—Resupinati.

* *Pileus fleshy, uniform.*

387. A. porrigens Pers. Wholly shining white.—**Pileus** 2.5–10 cent. (1–4 in.) broad, *at the first resupinate*, sessile, adnate behind, *forming excentric orbicular shields*, with the gills concurrent in an umbilicus, *soon* however *extended laterally*, ascending, *ear-shaped*, narrow at the base, dilated above; otherwise fleshy, *tough*, flaccid, at length undulato-lobed, even, somewhat smooth, but more or less tomentose towards the base; flesh thin, compact. **Gills** at first concurrent, somewhat veined, decurrent to the base when the pileus is extended, thin, crowded, linear, *very narrow*, sometimes divided.

Inodorous, insipid, when full grown often imbricated in the form of steps. It at length resembles *A. petaloides*.

On stumps, chiefly pine. Frequent. Aug.–Oct.

Spores sphæroid-ellipsoid, 7–8×6 mk. *K.*; 4×6 mk. *W.G.S.* Name—*porrigo*, to stretch out. From its habit of growth. *Pers. Obs. Myc.* i. *p.* 54. *Fr. Monogr.* i. *p.* 252. *Hym. Eur. p.* 178. *Berk. Out. p.* 137. *B. & Br. n.* 1222. *C. Hbk. n.* 125. *Illust. Pl.* 259. *a. S. Mycol. Scot. n.* 222. *Saund. & Sm. t.* 26.

388. A. septicus Fr. Wholly *shining white*.—**Pileus** 2–10 mm. (1–5 lin.) broad, *slightly fleshy*, *villous*, *at the first resupinate*, attached to the wood, then furnished with a short (2–4 mm., 1–2 lin.) incurved, villous stem, which becomes erect and at length vanishes, so that the reflexed pileus then appears sessile, with flaxy rootlets. **Gills** at first converging round the rudiment of a stem, comparatively broad, somewhat distant.

Very small, so changeable in form that it is difficult to recognise the same individual in different stages of its growth. In form, and flaxy rootlets of the stem, it is chiefly to be compared with *A. byssisedus*. It is smaller, however, and more fleshy, and is wholly (also the spores) *shining white*. It resembles *A. variabilis*, but the gills do not change colour on account of the spores being white.

On decayed wood, fungi, &c. Frequent. June.–Oct.

Name—*septicus*, putrefying. From its growing on rotten wood. *Fr. Monogr.* i. *p.* 254. *Hym. Eur. p.* 179. *Berk. Out. p.* 137. *C. Hbk. n.* 126.

Illust. Pl. 259. *b.*, *S. Mycol. Scot. n.* 223. *Letell. t.* 706. *f.* 1. A. pubescens Pleurotus. *Sow. t.* 321.

*** Pileus fleshy, gelatinous or viscid, &c.*

389. A. mastrucatus Fr.—**Pileus** 2.5–10 cent. (1–4 in.) broad, *mouse-grey, as if prickly with floccose, squarrose scales of the same colour*, fleshy, when full grown obovate or tongue-shaped, soft, flaccid, margin involute but lobed when full grown and luxuriant; *stratum of flesh double*, the upper, that of the thick (1 m., ½ lin.) pellicle, gelatinous, pliant, mouse-fuscous; the lower (that of the flesh proper) a little thicker, pallid. **Gills** at first concurrent in an excentric umbilicus (without the rudiment of a stem), then converging to the base of the pileus, broad, *somewhat distant*, quaternate, *whitish-grey*.

The first of a series of distinguished species, which form a remarkably natural group. Larger than following species, resupinate when young, adnate at the back, excentrically cup-shaped, then reflexed, sessile, somewhat imbricated.

On old trunks. Rare.

Name—*mastruca*, a sheepskin. From its woolly-like coat. *Fr. Monogr.* i. *p.* 254. *Hym. Eur. p.* 179. *Berk. Out. p.* 138. *C. Hbk. n.* 127. *Illust. Pl.* 243. A. echinatus *Sow. t.* 99.

390. A. atro-cæruleus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, commonly *dark azure-blue*, more rarely fuscous, at the first resupinate, soon reflexed, horizontal, obovate or reniform, *villous*, rarely slightly smooth, slightly wrinkled (because the cuticle is contracted in drying) when dry; flesh soft, the upper stratum (that of the pellicle) toughly gelatinous, as much as 4 mm. (2 lin.) thick, fuscous-blackish, the lower (that of the flesh proper) thinner, whitish. **Gills** at first concurrent, then reaching the base, *broad*, in groups of 4–8, *whitish, at length becoming light yellow*.

Sessile, gregarious, somewhat imbricated. Here and there emitting a very pleasant odour.

On trunks, birch, &c. Rare. Nov.–Dec.

Spores 3 × 8 mk. *W.G.S.* Name—*ater*, black; *cæruleus*, azure-blue. *Fr. Monogr.* i. *p.* 255. *Hym. Eur. p.* 179. *Berk. Out. p.* 138. *C. Hbk. n.* 128. *Illust. Pl.* 243. *S. Mycol. Scot. n.* 224. *Saund. & Sm. t.* 6. *f.* 1. A. alneus *Schæff. t.* 246. *f.* 3, 8, 9.

391. A. Leightoni Berk.—**Pileus** 10 mm. (5 lin.) broad, umber then lead-coloured, at first obliquely conical, furfuraceous, with short scattered bristles intermixed; flesh consisting of two distinct strata; the upper gelatinous, of the colour of the pileus, the

Pleurotus.

lower white. **Stem** none. **Gills** pallid tan-colour, rather thick, distant, somewhat forked at the base, slightly undulated, obscurely wrinkled at the base, the interstices scarcely reticulated.

On wood. Shrewsbury.

Name—after Rev. W. A. Leighton. *Berk. Ann. Nat. Hist.* xiii. *t.* 9. *f.* 1. *Out. p.* 138. *C. Illust. Pl.* 260. *Fr. Hym. Eur. p.* 179.

392. A. algidus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *umber or rufous brown*, fleshy, at first resupinate, then expanded, somewhat reniform, unequal, even, *smooth*, *viscous;* flesh thin, moderately pliant, whitish. **Gills** at first concurrent, at length appearing adnate, crowded, rather broad, sometimes crisped at the base, *becoming pallid yellow.*

Manifestly allied to *A. mastrucatus* and *A. atro-cæruleus*, but the *pellicle is thin, viscid only in a moist state*, and remarkably distinct in *the full-grown pileus*, being *smooth*, *umber or rufus-brown*. From an excentrically cup-shaped form, which is *adnate at the back and sessile*, with concurrent gills, it is unfolded into reflexed pilei, which are commonly cæspitoso-imbricated. When young the pileus is often covered with pruina. In the same places individual specimens have occurred quite similar, but departing from the type in the bluish-grey colour of the pileus.

On trunks. Linlithgowshire.

Name—*algidus*, cold. From its being found in northern regions. *Fr. Monogr.* i. *p.* 255. *Hym. Eur. p.* 180. *Berk. Out. p.* 138. *C. Hbk. n.* 129. *Illust. Pl.* 260. *Brigant. t.* 20. A. subsessilis *Fl. Dan. t.* 1552. *f.* 1. A. lateralis *Fl. Dan. t.* 1556. *f.* 2. A. cynotis *Pers. Myc. Eur.* 3. *t.* 23. *f.* 5.

393. A. fluxilis Fr.—**Pileus** 2.5 cent. (1 in.) broad, *somewhat umber*, thin, dimidiate, horizontal, plane, reniform, *covered* with a fluid *gelatinous stratum* which is not covered with a cuticle; the flesh proper very thin, pallid, soft. **Gills** rounded behind, 2 mm. (1 lin.) broad, *linear*, *distant*, distinct, *whitish;* few (3–5) reaching the base, but very many shorter ones intermixed.

As many as 31 of the shorter gills may be counted at the margin between those which reach the base. Solitary, sessile. A most distinguished species, not to be compared with any other. Never resupinate, but *adhering by a single lateral point*, to which all the gills converge.

On wood and sawdust. Glamis, 1877. Oct.

When young it is covered with an extremely thin, vanishing membrane, so that it may be truly said to be without a cuticle. Spores elliptical-oblong, guttate, 10 mk. *Q.* Name—*fluxilis*, fluid. From the fluid stratum of the pileus. *Fr. Monogr.* i. *p.* 256. *Hym. Eur. p.* 180. *B. & Br. n.* 1756. *S. Mycol. Scot. n.* 226. *C. Illust. Pl.* 244.

394. A. cyphellæformis Berk.—**Pileus** 4 mm. (2 lin.) or more broad and high, *cinereous*, cup-shaped, then dependent, very

minutely strigose especially at the base, margin paler, sprinkled with a few meal-like scales; upper stratum gelatinous, cinereous, beneath which the flesh is white and very thin. **Stem** none. **Gills** pure white, rather distant, the alternate ones shorter, narrow, linear. Pleurotus.

Minute. Gregarious. Allied to *A. applicatus*.

On dead herbaceous stems. Rare. Oct.

Name—κύφελλον, the hollow of the ear. From its shape. *Berk. Mag. Zool. and Bot.* i. *t.* 15. *f.* 3. *Out. p.* 138. *C. Hbk. n.* 131. *Illust. Pl.* 244. *Fr. Hym. Eur. p.* 180.

395. A. applicatus Batsch. Dark cinereous.—**Pileus** 4–6 mm. (2–3 lin.) broad, *when young cup-shaped*, orbicular, *adnate behind*, villous at the base, commonly *sessile*, more or less pruinate; when fuller grown more or less reflexed, never dimidiate, smooth or slightly villous, slightly striate when damp. **Gills** few, *rather thick*, *broad*, distant, paler than the pileus and here and there whitish at the edge.

Varying in colour, cinereous- or azure-blue-blackish, dark or bluish-grey. The pileus is occasionally extended in a stem-like form (but there is never the rudiment of a true stem) with the gills radiating from a central point. Habit and stature wholly those of *A. striatulus*, &c., but thicker, firmer, and clothed with a gelatinous pellicle.

On dead branches, ash, &c. Common. Autumn–Spring.

Fries found it chiefly on willows. Name—*applicatus*, closely attached. From its habit of growth. *Batsch t.* 125. *Fr. Monogr.* i. *p.* 257. *Hym. Eur. p.* 180. *Berk. Out. p.* 139. *C. Hbk. n.* 133. *Illust. Pl.* 244. *c. S. Mycol. Scot. n.* 227. *Sow. t.* 301. A. epixylon *Bull. t.* 581. *f.* 2.

**** Pileus membranaceous, not viscid.*

396. A. Hobsoni Berk.—**Pileus** 2–8 mm. (1–4 lin.) broad, pale grey, membranaceous, reniform or dimidiate, stemless, minutely downy, margin involute. **Gills** rather distant, pallid.

On larch-stumps. Apethorpe, 1859. Sept.

It seems very closely allied to *A. reniformis*, but that species is smooth, shortly stipitate and broader. *Fr.* Name—after Lieut. Julian C. Hobson. *Berk. Out. p.* 138. *C. Hbk. n.* 132. *Illust. Pl.* 212. *a. Fr. Hym. Eur. p.* 181.

397. A. striatulus Fr. *Pale cinereous.*—**Pileus** very small, 4–6 mm. (2–3 lin.) broad, always sessile, not extended behind, cup-shaped, *very tender*, *smooth*, *pellucid*, striate. **Gills** few, distant, of the same colour as the pileus or whitish.

Gregarious. Easily escaping observation from its minuteness. Wholly withering and corrugated when dry. Very changeable in different stations.

Pleurotus. A. The typical form is regularly cup-shaped or obconico-campanulate, central, never reflexed, and for the most part fuscous-cinereous; on the under side of fallen trunks, chiefly pine. B. In another form the pilei are at first excentric, then reflexed, imbricated and crisped, of a pale cinereous colour; on dried vertical branches, such as hazel. C. A third form (*Pers. Myc. Eur.* 3. *t.* 25. *f.* 3.) has the pileus irregular, at length dimidiate, bluish-grey; on fallen stalks.

On fir, hazel, elm, &c. Uncommon. May–Dec.

Name—*striatulus*. Slightly striate. *Fr. Monogr.* i. *p.* 257. *Hym. Eur. p.* 181. *Icon. t.* 89. *f.* 5. *Berk. Out. p.* 139. *C. Hbk. n.* 134. *Illust. Pl.* 212. *b. S. Mycol. Scot. n.* 228.

398. A. hypnophilus Berk.—**Pileus** white, sessile, resupinate, flat, somewhat reniform, nearly smooth. **Gills** simple, of the same colour.

Exactly the habit of *A. variabilis;* but the spores are white, and in consequence the gills do not change colour.

On the larger mosses, and fallen leaves. Appin.

Joined by Persoon with *A. variabilis*. Spores 3 × 2–3 mk. *B.* Name—ὕπνον, a marsh plant; φίλος, loving. Hypnum-loving. *Berk. Eng. Fl.* v. *p.* 75. *Out. p.* 139. *C. Hbk. n.* 135. *Illust. Pl.* 212. *c. S. Mycol. Scot. n.* 229. *Fr. Hym. Eur. p.* 181. A. variabilis v. hypnophilus *Pers. Myc. Eur.* 3. *t.* 24. *f.* 5 a?

399. A. chioneus Pers. Snow-white. —**Pileus** *very tender*, somewhat resupinate, *villous*. **Stem** curt, *villous*, vanishing. **Gills** rather broad.

On wood or dung. Rare. Sept.

Pileus 4 mm. (2 lin.) broad, extremely delicate and fragile, clothed with white down, fixed by a few downy threads, the margin involute. Gills radiating, distant, with sometimes a single smaller one in the interstices. Allied to *A. septicus*, and differing in its very thin pileus. *M. J. B.* Name—χιών, snow. Snow-white. *Pers. Myc. Eur.* 3. *t.* 26. *f.* 10, 11. *Fr. Hym. Eur. p.* 181. *Berk. Eng. Fl.* v. *p.* 75. *Out. p.* 139. *C. Hbk. n.* 136. *Illust. Pl.* 212. *d.*

Series II. **HYPORHODII** (ὑπό (diminutive); ῥόδεος, rose-coloured). Spores rosy or rubiginous. [A partial veil has been observed only among the Annulariæ. The spores in the Volvariæ, Plutei, and most of the Clitopili are globose or oblong and even, like those of the Leucospori, but in the other subgenera of the series (also in *A.* (*Pluteus*) *roseo-albus* according to *Seynes*) they are commonly *irregular and angular*.] *Fr. Hym. Eur. p.* 182.

Volvaria. *Subgenus X.* **VOLVARIA** (*volva*, a wrapper). Fr. Syst. Myc. i. p. 277. Rosy-spored. Universal veil free, persistent, distinct

from the epidermis of the pileus (constituting a volva). Hymenophore distinct from the stem. The Volvariæ are as it were Amanitæ with rosy spores, but they are more nearly related to the Plutei and the Psalliotæ. Gills rounded behind and free, ventricose. *Fr. Hym. Eur. p.* 182. Volvaria.

Volvaria corresponds with *Amanita.* The species appear early in the year. They grow chiefly on rotten wood or in rich mould or manured ground; hence they are more frequent in gardens, hothouses, &c., than in woods. Some are said to be edible, but they soon acquire a disagreeable taste from the rapidity with which they decay.

XII. Agaricus (*Volvaria*) *volvaceus.* One-fifth natural size.

* *Pileus dry, silky or fibrillose.*
** *Pileus more or less viscous and smooth.*

* *Pileus dry, silky or fibrillose.*

400. A. bombycinus Schæff. — **Pileus** 7.5–20 cent. (3–8 in.) broad, *wholly white*, fleshy, soft, at first globose, soon campanulate, at length convex, somewhat umbonate, *everywhere silky*-or, *when older, squamuloso-villous*, more rarely becoming smooth at the vertex; flesh not thick, white. **Stem** 7.5–15 cent. (3–6 in.) long, 12 mm. (½ in.) thick or more at the base, solid, equally attenuated from the base to the apex, even, smooth, white. Volva soon torn asunder, ample, 5–7.5 cent. (2–3 in.) broad, membranaceous, lax, laciniate, somewhat viscid, persistent. **Gills** free, very crowded when young, almost cohering, ventricose, in groups of 2–4, then toothed, flesh-coloured.

Ovate when young. According to some becoming fuscous. The stem is curved-ascending on vertical trunks and straight on prostrate ones. Commonly solitary, sometimes however cæspitose.

On decayed wood, stumps, &c. Rare. Aug.–Sept.

Spores elliptic. Considered edible. Name—*bombyx*, silk. Silky. *Schæff. t.* 98. *Fr. Monogr.* i. *p.* 259. *Hym. Eur. p.* 182. *Berk. Out. p.* 139. *t.* 7. *f.* 1. *C. Hbk. n.* 231. *Illust. Pl.* 293. *Krombh. t.* 23. *f.* 15-21. *Brig. t.* 34. *f.* 1-6. *Barla t.* 25. *f.* 1-5. *Mich. N. gen. t.* 76. *f.* 2.

401. A. volvaceus Bull.—**Pileus** 7.5 cent. (3 in.) broad, rarely more, *cinereous, black-streaked with adpressed fibrils*, campanulate then expanded, obtuse. **Stem** 7.5–12.5 cent. (3–5 in.) long,

Volvaria. 12 mm. (½ in.) thick, white, solid, somewhat equal; volva lax. **Gills** free, flesh-coloured.

Its history is wholly that of *A. bombycinus*, but it is generally smaller. It differs constantly, however, in the volva being less ample and persistent and in becoming fuscous, in breadth, colour, and streaking of the pileus, and in the gills being less purely flesh-coloured.

In stoves, roadsides, &c. Rare. July–Aug.

Spores 6–8 × 4 mk. *B.* Name—*volva*, a wrapper; furnished with a volva. *Bull. t.* 262. *Fr. Monogr.* i. *p.* 260. *Hym. Eur. p.* 182. *Fl. Dan. t.* 1731. *f.* 2. *Vivian. t.* 10. *Ventur. t.* 22. *Barl. t.* 25. *f.* 6-13. *Fr. Nees in Act. Nat. Cur.* xvi. *t.* 7. *C. Illust. Pl.* 294. Form departing from the type *Sow. t.* 1. *Berk. Out. p.* 140. *C. Hbk. n.* 232.

402. A. Loveianus Berk. — **Pileus** 6 cent. (2½ in.) broad, white with a very slight shade of pink or cinereous, beautifully silky, moderately fleshy, subtruncato-globose, then convex or slightly expanded, margin involute. **Stem** 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, white, solid, bulbous, attenuated upwards, closely fibrillose with a little matted down, very juicy; volva pure white with a little downy prominence within round the base of the stem. **Gills** broad in front, quite free, somewhat deliquescent, gradually pale pink.

At first it appears like a small, smooth, white, round *Bovista*. Gregarious, subcæspitose.

Parasitic on *A. nebularis*. Very rare. Oct.

It has been grown on *A. nebularis* by Worthington Smith. Spores minute, elliptic, 3 mk. *W.G.S.* Name—after Rev. R. T. Lowe. *Berk. Out. p.* 140. *t.* 7. *f.* 2. *C. Hbk. n.* 233. *Illust. Pl.* 295. *S. Mycol. Scot. n.* 230. *Fr. Hym. Eur. p.* 182.

403. A. Taylori Berk.—**Pileus** 4.5 cent. (1¾ in.) high and broad, livid, conico-campanulate, obtuse, striato-rimose from the apex, thin, margin lobed and sinuated. **Stem** 6 cent. (2½ in.) long, 6 mm. (¼ in.) thick, pallid, solid, nearly equal, slightly bulbous at the base; volva date-brown, lobed, somewhat lax, small. **Gills** uneven, broad in front, very much attenuated behind, rose-colour.

Pileus beautifully pencilled and cracked. The dark volva, campanulate pileus, and uneven, attenuated gills are marked characters. The habit is rather that of some *Entoloma* than of its more immediate allies.

On the ground. Jersey, &c.

Spores 6 × 9 mk. *W.G.S.* Name—after M. A. Taylor. *B. & Br. n.* 675. *Berk. Out. p.* 140. *C. Hbk. n.* 234. *Illust. Pl.* 296. *Saund. & Sm. t.* 33. *f.* 1. *Fr. Hym. Eur. p.* 183.

404. A. temperatus B. & Br.—**Pileus** 6 mm. (¼ in.) broad, convex, umbonate, pulverulent, striate. **Stem** 2.5 cent. (1 in.) long, not 2 mm. (1 lin.) thick, slender, pellucid ; volva ample. Volvaria.

On soil in a greenhouse. Sibbertoft.

Name—*temperatus*, as applied to heat. From growing in a greenhouse. *B. & Br. n.* 1757. *C. Illust. Pl.* 300. *a.*

*** Pileus more or less viscous and smooth.*

405. A. speciosus Fr.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, whitish, *grey* or umber *at the disc*, fleshy, globose when young, then campanulate, at length plane and somewhat umbonate, even, *smooth, viscous;* flesh soft, floccose, white. **Stem** 10–20 cent. (4–8 in.) long, as much as 2.5 cent. (1 in.) thick, solid, firm, slightly attenuated from the base as far as the apex, when young *white-villous* and tomentose at the base, then becoming smooth, white ; volva bulbous rather than lax, free however, variously torn into loops, membranaceous, 1–2.5 cent. (½–1 in.) broad, externally tomentose, white. **Gills** free, flesh-coloured.

The gills are wholly the same as those of *A. bombycinus*. It occurs also thinner, with the pileus wholly grey.

On dunghills, roadsides, &c. Rare. Sept.–Oct.

Spores ellipsoid or sphæroid-ellipsoid, even, 12–18 × 8–10 mk. *K.* Name—*speciosus*, handsome. *Fr. Monogr.* i. *p.* 260. *Hym. Eur. p.* 183. *Berk. Out. p.* 141. *B. & Br. n.* 902*. *C. Hbk. n.* 236. *Illust. Pl.* 297. *S. Mycol. Scot. n.* 231. *Fl. Dan. t.* 1737. *Krombh. t.* 26. *f.* 1-8.

406. A. gloiocephalus Dec. Fl.—**Pileus** fuliginous, fleshy, campanulate then expanded, umbonate, smooth, *glutinous*, striate at the margin. **Stem** solid, *smooth*, becoming fuscous or tawny; the *volva*, which is *circularly split*, pressed close. **Gills** free, reddish.

Fragments of the volva are sometimes seen on the pileus. The stem is commonly more slender than that of *A. speciosus*.

On the ground. Uncommon. June–Oct.

Pileus about 3 in. across, with a strong regular, obtuse umbo in the centre, of a delicate mouse-grey, viscid when moist but when dry shining, quite smooth, margin striate in consequence of the thinness of the flesh ; stem 6 in. or more high, about ½ in. thick in the centre, attenuated upwards, bulbous at the base, clothed with a few slight fibres, easily splitting, solid, rather dingy, ringless. Volva loose, villous like the base of the stem, splitting into several unequal lobes ; the gills are broad, especially in front, narrower behind and quite free, so as to leave a space round the top of the stem, white, tinged with greyish pink ; margin slightly toothed. Smell strong and unpleasant, and taste disagreeable. *M. J. B.* Very poisonous according to

Volvaria. Letellier. Spores 19×9 mk. *W.G.S.* Name—γλοιός, sticky; κεφαλή, head. From the glutinous pileus. *Decand. Fl. fr.* vi. *p.* 52. *Fr. Hym. Eur. p.* 183. *Gard. Chron.* 1860, *p.* 933. *fig. C. Hbk. n.* 237. *Illust. Pl.* 298. *S. Mycol. Scot. n.* 232. *Saund. & Sm. t.* 33. *f.* 2. *Letell. t.* 623. *f.* 2. & *t.* 645. *f. H.J.* A. speciosus *Klotzsch in Fl. Bor. t.* 457. *Barla t.* 26. *Berk. Out. t.* 7. *f.* 3.

407. A. medius Schum. White.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, slightly fleshy, convexo-plane, obtuse, *viscous, silky when dry*, margin even, *smooth*. **Stem** scarcely 5 cent. (2 in.) long, solid, equal, *smooth;* the sheathing volva lobed. **Gills** free, rosy-flesh-colour.

It is very much allied to *A. speciosus*, but much smaller, wholly shining white. It differs conspicuously from *A. parvulus*, with which many confound it, in the stem being solid and smooth, and in the pileus being convexo-plane and viscid.

On the ground. Epping Forest, 1869. Oct.

Name — *medius*, middle. Intermediate between *A. speciosus* and *A. parvulus*. *Schum. Sæll. p.* 248. *Fr. Hym. Eur. p.* 184. *Monogr.* i. *p.* 261. *Fl. Dan. t.* 1676. *f.* 2. *Larb. t.* 9. *f.* 4. *C. Illust. Pl.* 299. A. sericocephalus *Letell. t.* 623. *b.*

408. A. parvulus Weinm.—**Pileus** 1–2.5 cent. (½–1 in.) rarely more broad, *whitish*, the umbo here and there darker, *slightly fleshy*, conical then campanulate, at length rather plane and *umbonate*, at first slightly viscid, soon dry, silky. **Stem** 2.5–4 cent. (1–1½ in.) long, 2–4 mm. (1–2 lin.) thick, *somewhat fistulose*, equal, silky, villous at the base, white. **Gills** free, flesh-coloured.

Gregarious. Much smaller and thinner than preceding species. Form B. Wholly shining white when young, the gills at length white flesh-colour. Pileus conical when young, 6–8 mm. (3–4 lin.) high, dry, and sometimes floccoso-squamulose. Stem stuffed, never fistulose, 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, equal, pubescent, sheathed with the two-lobed volva, adpressedly silky.

In pastures, soil in gardens, &c. Frequent.

A very minute form occurs on the soil of garden-pots in stoves, with a transparent, minutely tomentose stem; volva white, silky. *B. & Br.* Spores 6×4 mk. *W.G.S.;* 8×5 mk. *W.P.;* 6–8×4 mk. *B.* Name—*parvus*, small. Very small. *Weinm. Ross. p.* 238. *Fr. Monogr.* i. *p.* 261. *Hym. Eur. p.* 184. *B. & Br. n.* 1413*. *C. Hbk. n.* 235. *Illust. Pl.* 300. *b.* A. volvaceus minor *Bull. t.* 330. A. pusillus *Pers. Obs.* 2. *p.* 36. *t.* 4. *f.* 4. *Berk. Out. p.* 140. *Krombh. t.* 3. *f.* 20. A. venustus *Vivian. t.* 11.

Annularia. *Subgenus XI.* **ANNULARIA** (*annulus*, a ring) Schulz. Verh. Oestereich. Zool. Bot. Gesell. 1868, p. 49. Rosy-spored, furnished with a ring, but destitute of a volva. Gills free; hymenophore

distinct from the stem. Chamæota *Smith in Seem. Journ.* 1870. Annularia. *Fr. Hym. Eur. p.* 184.

No British species.

Subgenus XII. **PLUTEUS** (*pluteus*, a pent-house). Fr. Epicr. p. 140. Rosy-spored, without a volva or a ring. Hymenophore distinct from the stem, and hence the gills are rounded behind and free (never emarginate), cohering at the first, white then flesh-coloured, but in one or two instances often tinged with yellow. *Fr. Hym. Eur. p.* 185. Pluteus.

XIII. Agaricus (Pluteus) cervinus. One-fourth natural size.

Pluteus agrees in all except the volva with *Volvaria*. If the pellicle of the pileus, which is often fibrillose, flocculose, or pruinose, is to be considered a concrete universal veil, it would be analogous with *Lepiota*. The apex of the stem which is separate from the flesh of the pileus is inserted in it like a peg, which is the case in most of the *Lepiotæ*. The species grow on or near trunks, appearing early, and lasting longer than the *Volvariæ*. None are edible; taste insipid, smell unpleasant.

* *Cuticle of the pileus separating into fibrils or flocci.*
** *Pileus pruinate with atoms, somewhat pulverulent.*
*** *Pileus naked, smooth.*

* *Cuticle of the pileus separating into fibrils or flocci.*

409. A. cervinus Schæff.—**Pileus** 7.5 cent. (3 in.) and more broad, fleshy, somewhat fragile, *campanulate then expanded*, obtuse, *when young* covered over with a continuous *pellicle*, which is toughly *viscid* in wet weather, becoming even, smooth, fuliginous; this, however, is gradually *broken up into fibrils or squamules* on the pileus, which becomes pale and is often streaked, margin entire and naked; flesh soft, white. **Stem** 7.5 cent. (3 in.) and more long, 12 mm. (½ in.) and more thick, *solid*, firm, equal, white, but externally *reticulated* or striate *with black fibrils*. **Gills** rounded behind, free and quite separate from the stem, crowded, ventricose, somewhat crenulated, white then flesh-colour, of the same colour at the edge.

Pluteus.

Protean. In very shady places the colour passes into yellow-fuscous (*Fl. Dan. t.* 1067. *f.* 2). In hollow trunks smaller with the pileus excentric and the stem ascending.

On trunks and stumps. Common. April–Nov.

Spores sphæroid-ellipsoid, even, 7–8 × 5–6 mk. *K.*; 6–8 × 4–5 mk. *B.*; 4 × 5 mk. *W.G.S.* Name—*cervus*, a deer. Fawn-coloured. *Schæff. t.* 10. *Fr. Monogr.* i. *p.* 263. *Hym. Eur. p.* 185. *Berk. Out. p.* 141. *C. Hbk. n.* 240. *Illust. Pl.* 301. *S. Mycol. Scot. n.* 233. A. atricapillus *Batsch t.* 76. A. latus *Bolt. t.* 2. *Sow. t.* 108. A. pluteus *Dittm. Sturm. t.* 28. *Krombh. t.* 2. *f.* 7–10. A. Neesii *Klotzsch in Fl. Bor. t.* 459. Var. Bullii *Berk. C. Illust. Pl.* 357.

* **A. eximius** Sm.—**Pileus** fleshy, when young campanulate and elegantly corrugated and lobed, margin involute and not membranaceous, clothed with a semi-viscid separable *cuticle*. **Stem** thick, solid, fibrillose. **Gills** crowded, somewhat thick, white then pale rose, becoming slightly rufous when bruised; flesh cartilaginous, tasteless or watery.

Flesh cutting like *A. cervinus*. Manifestly near *A. petasatus*, but it differs materially in the pileus being fleshy throughout, and in other characters. Spores yellowish salmon, spherical but somewhat irregular, averaging 7 × 5 mk.

On sawdust. Rare. Nov.

The pileus is rufescent-umber, when young darker and beautifully tinged with carmine round the margin. The very stout stem becomes almost black-streaked. Name—*eximius*, remarkable. *Saund. & Sm. t.* 38. *S. Mycol. Scot. n.* 233. *C. Illust. Pl.* 302. *Fr. Hym. Eur. p.* 186.

* **A. petasatus** Fr.—**Pileus** 12.5–15 cent. (5–6 in.) broad, *whitish-cinereous*, at length somewhat date-brown, *campanulate then expanded* and flattened, very smooth, *covered over with a viscid separable pellicle*, fleshy at the disc but membranaceous and at length *slightly but densely striate* from the circumference *to the middle;* flesh soft, white. **Stem** as much as 20 cent. (8 in.) long, solid, rigid, attenuated upwards from the silky base, fibrilloso-striate, pallid, at length becoming tawny. **Gills** very broad, 18 mm. (¾ in.), very crowded, drying up and at length tawny at the edge.

On sawdust, &c. Uncommon.

Name—*petasus*, a hat with a broad brim. From its shape. *Fr. Monogr.* i. *p.* 265. *Hym. Eur. p.* 186. *Berk. Out. p.* 141. *C. Hbk. n.* 243. *Illust. Pl.* 303. *S. Mycol. Scot. n.* 233. *Berk. Ann. Nat. Hist.* xiii. *t.* 9. *f.* 2. *n.* 271.

410. A. umbrosus Pers.—**Pileus** *umber*, fleshy, campanulate then expanded, *lacunose-wrinkled, at the first villous*, margin *ciliato-fimbriate*. **Stem** solid, villous-scaly. **Gills** free, fuliginous-fimbriated at the edge.

The stature is wholly that of *A. cervinus*, but it differs in the villous-scaly stem, in the *pileus* being *lacunose, at the first villous and the margin fringed with hairs*, and in the edge of the gills being fringed-fuliginous or marginate. But these differences gradually disappear, and there are many intermediate forms. Pluteus.

On dead wood. Rare. Sept.

Spores 6–8 × 5 mk. *B.* Name—*umbrosus*, shady. *Pers. Ic. descr. t. 2. f. 5. Syn. p.* 358. *Fr. Hym. Eur. p.* 186. *Monogr.* i. *p.* 263. *C. Hbk. n.* 241. *Illust. Pl.* 304. *a. S. Mycol. Scot. n.* 234. A. umbrinus *Berk. Out. p.* 141.

411. A. salicinus Pers.—**Pileus** 2.5 cent. (1 in). and more broad, bluish-grey then cinereous, slightly fleshy, *convex then plane*, somewhat umbonate, *smooth*, but *flocculoso-rugulose* and darker at the disc. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) or a little more thick, *stuffed*, equal, *fibrillose*, fragile, *white-azure-blue*, or sometimes becoming green. **Gills** free, rose-colour.

It approaches *Leptoniæ* in the darker and slightly wrinkled disc.

In the interior of hollow willow. South Wooton. Sept.

Name—*salix*, willow. *Fr. Monogr.* i. *p.* 264. *Hym. Eur. p.* 186. *Grevillea, vol.* xiii. *p.* 48.

412. A. hispidulus Fr.—**Pileus** 8–10 mm. (4–5 lin.) broad, grey, *slightly fleshy, convex then plane*, obtuse, everywhere *silky* or slightly pilose, even, dry, at length slightly striate at the margin. **Stem** 2.5 cent. (1 in.) and more long, 2 mm. (1 lin.) thick, *fistulose*, equal, curved-ascending, round, fragile, even, smooth, silvery. **Gills** free, flesh-colour.

The smallest of the *Plutei*, most clearly distinct from all the rest.

On beech-stumps. Stapleton Park.

Fries has found it growing also on mould in pots in hothouses. Name—*hispidus*, hairy. Slightly hairy. *Fr. Monogr.* i. *p.* 264. *Hym. Eur. p.* 187. *Icon. t.* 90. *f.* 2. *C. Illust. Pl.* 304. *b.*

** *Pileus pruinate with atoms, somewhat pulverulent.*

413. A. nanus Pers.—**Pileus** 2.5 cent. (1 in.) broad, *umber* or darker at the disc, from which *veined radiating umber wrinkles* extend throughout the pileus which is fuliginous and sprinkled with fuscous pulverulent sootiness, slightly fleshy, but toughish, *by no means campanulate*, but convex then flattened, obtuse, well formed, dry. **Stem** 2.5 cent. (1 in.) long, 2–4 mm. (1–2 lin.) thick, *solid*, rigid, equal or slightly attenuated from the base and dilated

Pluteus.

again at the very apex, slightly striate, whitish. **Gills** free, flesh-colour.

The pileus and stem are commonly 2.5 cent. (1 in.) only, but individual specimens occur with the pileus 6 cent. (2½ in.) broad, and the stem 5–7.5 cent. (2–3 in.) long.

On fallen sticks and sawdust. Uncommon. Aug.–Oct.

Spores 5 mk. *W.G.S.* Name—*nanus*, dwarf. *Pers. Syn. p.* 357. *Fr. Monogr.* i. *p.* 266. *Hym. Eur. p.* 187. *Berk. Out. p.* 141. *C. Hbk. n.* 242. *Illust. Pl.* 305. *a. S. Mycol. Scot. n.* 235. Var. *lutescens* with stem and often gills yellow. *B. & Br. n.* 676, yellow-stemmed var. *C. Illust. Pl.* 305. *b.* A. pyrrhospermus *Bull. t.* 547. *f.* 3.

414. A. spilopus B. & Br.—**Pileus** brown, rugulose. **Stem** flexuous, black-dotted.

Dwarf. Allied to *A. nanus.*

On stumps. Batheaston, 1880.

Spores globose, even. *B. & Br.*; 4 mk. *W.P.* Name—σπῖλος, spot; πούς, a foot. With spotted stem. *B. & Br. n.* 1856. *C. Illust. Pl.* 325.

**** Pileus naked, smooth.*

415. A. leoninus Schæff.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, yellow or lemon-yellow, very thin, *somewhat membranaceous, fragile, campanulate then expanded,* even, smooth, naked, slightly striate at the margin. **Stem** 7.5 cent. (3 in.) and more long, 4–8 mm. (2–4 lin.) thick, *solid,* fragile, slightly attenuated upwards, sometimes thickened at the base, longitudinally striate, becoming whitish-light yellow. **Gills** free, white then flesh-colour, but for the most part becoming light yellow at the edge.

Erect. Commonly taller and much handsomer in the typical state than the figures represent. Often confounded with the yellowish form of *A. nanus.*

On wood. Rare. Sept.–Oct.

Pileus often of the most brilliant orange. *M. J. B.* Name—*leoninus*, pertaining to a lion. Tawny. *Schæff. f.* 48. *Fr. Monogr.* i. *p.* 266. *Hym. Eur. p.* 188. *Berk. Out. p.* 142. *t.* 7. *f.* 4. *C. Hbk. n.* 244. *Illust. Pl.* 421. *Pers. Ic. descr. t.* 7. *f.* 4.

416. A. chrysophæus Schæff.—**Pileus** *cinnamon,* somewhat membranaceous, campanulate then expanded, becoming even, naked, smooth and streaked, striate at the margin. **Stem** *somewhat hollow,* smooth. **Gills** free, white then flesh-colour.

The stature and substance are wholly those of *A. leoninus,* from which, however, it differs constantly in the *stem* being *fistuloso-hollow* and less striate, and in the *pileus* being *dark cinnamon* or pale umber, often black-streaked.

On wood, stumps, &c. Frequent. July–Oct. Pluteus.

Pileus 5 cent. (2 in.) or more across, dingy. Stem white or yellowish, solid in my specimens. *M. J. B.* Spores 5 mk. *W. P.* Name—χρυσός, gold; φαίος, dusky. Dingy-golden. *Schæff. t.* 253. *Fr. Hym. Eur. p.* 188. *Monogr.* i. *p.* 266. *Berk. Out. p.* 142. *t.* 7. *f.* 5. *C. Hbk. n.* 245. *Illust. Pl.* 309. *S. Mycol. Scot. n.* 236. A. molliusculus *Sow. t.* 174. *Grev. t.* 173.

417. A. phlebophorus Dittm.—**Pileus** *umber*, slightly fleshy, convex then expanded, *wrinkled with veins*, naked as well as the margin which is without striæ. **Stem** fistulose, smooth, somewhat incurved, shining. **Gills** free, white-flesh-colour.

Appearing in the same localities as *A. nanus*, and very like it in all its parts. It does not differ except in the *fistulose shining stem*, and in the *pileus* being *naked* (not pruinose), commonly reticulated with wrinkles.

On rotten wood, sawdust, &c. Rare. July–Oct.

Pileus about 2.5 cent. (1 in.) broad. The pits of the pileus are very deep, and the reticulations very distinct; in our plant the stem is slightly flocculose. *B. & Br.* Spores subglobose, 9 mk. *B. & Br.*; 6×8 mk. *W.G.S.*; 5×7 mk. *W.P.*; 6–8×5–6 mk. *B.* Name—φλέψ, vein; φέρω, to carry. From the veined pileus. *Dittm. Sturm. t.* 15. *Fr. Hym. Eur. p.* 188. *Monogr.* i. *p.* 267. *Berk. Out. p.* 142. *B. & Br. n.* 676*. *C. Hbk. n.* 246. *Illust. Pl.* 422. *S. Mycol. Scot. n.* 237. Var. reticulatus. *C. Illust. Pl.* 422. B.

Subgenus XIII. **ENTOLOMA** (ἐντός, within; λῶμα, a fringe. Probably referring to the innate character of the pseudo-veil). Entoloma.

Fr. Epicr. p. 143. Rosy-spored. No distinct veil. Stem fleshy or fibrous, soft, sometimes waxy. Pileus somewhat fleshy, margin incurved. Hymenophore continuous with the stem; gills sinuato-adnexed behind or separating. *Spores, so far as they have been examined, angular. Fr. Hym. Eur. p.* 189.

Entoloma is analogous with *Tricholoma* and must be carefully separated from *Hebeloma*. The species grow on the ground, and occur chiefly after heavy rain. They are not used as food, though many smell of new meal, as esculent species often do.

XIV. Agaricus (*Entoloma*) *sinuatus.* One-sixth natural size.

I. Genuini (typical species). Pileus fleshy, when full grown smooth, often viscid, but not hygrophanous, nor ever innato-floccose or squamulose.

Entoloma. II. Leptonidei (inclining to *Leptonia*). Pileus absolutely dry, but flocculose, somewhat scaly.

III. Nolanidei (inclining to *Nolanea*). Pileus thin, for the most part scissile, *hygrophanous*, smooth, but with a silky appearance when dry. *Commonly irregular, pileus repand.*

I.—Genuini.

418. A. sinuatus Fr.—**Pileus** 15 cent. (6 in.) broad, *becoming yellow-white*, very fleshy, *convex then expanded*, at first gibbous, at length depressed, repand and sinuate at the margin. **Stem** 7.5–15 cent. (3–6 in.) long, 2.5 cent. (1 in.) thick, *solid*, firm, stout, equal, compact, *at first fibrillose*, then smooth, naked, shining white. **Gills** *emarginate*, slightly adnexed, 12–18 mm. (½–¾ in.) broad, crowded, distinct, pale yellowish-rufescent.

Gregarious, compact, handsome. *Odour strong, pleasant, almost like that of burnt sugar*, not of new meal. The pileus becomes broken into squamules when dry. There is a variety with a shorter stem.

In mixed woods. Uncommon. July–Oct.

The gills are often irregular in their attachment. Very poisonous; producing headache, swimming of the brain, stomach pains, vomiting, &c. Worthington Smith, who first experimented with it, ate about ¼ oz., which very nearly proved fatal. Spores 9 mk. *W.G.S.* Name—*sinuatus*, waved. From the form of the pileus. *Fr. Monogr.* i. *p.* 268. *Hym. Eur. p.* 189. *C. Hbk. n.* 247. *Illust. Pl.* 310. *S. Mycol. Scot. n.* 238. A. sinuosus *Saund. & Sm. t.* 11.

419. A. lividus Bull.—**Pileus** 10 cent. (4 in.) and more broad, *livid-tan*, becoming pale, fleshy, somewhat compact at the disc, convex then plane, somewhat gibbous, dry, even, *smooth*, but as it were *longitudinally fibrillose from the pellicle being fissile*, equal (not repand). **Stem** 7.5 cent. (3 in.) long, 2.5 cent. (1 in.) and more thick, *somewhat hollow*, or stuffed with a spongy pith, stout, equal, not fibrillose but slightly striate, *pruinose at the apex*, externally rigid, internally spongy, shining white. **Gills** rounded, somewhat free, scarcely crowded, 6–10 mm. (3–5 lin.) broad, attenuated in front, whitish then flesh-colour.

Odour mealy, but often obsolete. Allied to *A. sinuatus*, but sufficiently distinct.

In woods. East Dereham, Norfolk. Oct.

According to Quelet it is very poisonous. Name—*lividus*, livid colour. *Bull. t.* 382. *Fr. Monogr.* i. *p.* 269. *Hym. Eur. p.* 189. *Icon. t.* 90. *f.* 3. *B. & Br. n.* 1935. *C. Illust. Pl.* 311. *Quel. t.* 6. *f.* 1. Var. roseus *Berk. C. Illust. Pl.* 469.

420. A. prunuloides Fr.—**Pileus** 5 cent. (2 in.) and more broad, whitish, becoming yellow or livid, fleshy, *campanulate then con-*

vex, at length flattened, somewhat umbonate, unequal (but not repand), even, *viscid*, smooth, at length longitudinally rimose, at length slightly striate at the margin. **Stem** 7.5 cent. (3 in.) long, 6–8 mm. (3–4 lin.) thick, fibrous-fleshy, solid, equal, even or slightly striate, smooth, naked, white. **Gills** somewhat free, emarginate, rarely rounded, at the first only slightly adnexed, 6–8 mm. (3–4 lin.) broad, crowded, ventricose, white then flesh-colour. Entoloma.

Odour strong of new meal, wholly that of *A. prunulus*. Very scattered in growth. Like *A. lividus* but very different, thrice as small. It differs entirely from *A. cervinus*.

On the ground in woods. Uncommon. Autumn.

Spores regularly 6-angled or one angle more marked, 8 mk. *B.*; 9 mk. *W.P.* Name—like *A. prunulus*. *Fr. Monogr.* i. *p.* 269. *Fr. Hym. Eur. p.* 189. *Icon. t.* 91. *f.* 1. *Berk. Out. p.* 143. *C. Hbk. n.* 248. *Illust. Pl.* 312. *S. Mycol. Scot. n.* 239.

421. A. repandus Bull.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *whitish or ochraceous, striate with darker spots*, fleshy, conical then expanded, umbonate, somewhat silky when dry, the incurved margin lobed. **Stem** curt, 4 cent. (1½ in.) long, 6 mm. (3 lin.) thick, solid, silky, white. **Gills** broader in front, flesh-colour.

Odour of new meal. Vernal according to Bulliard.

Among grass. Rare. Sept.

Spores irregular, stellate, studded with very large processes, 11 × 6 mk. and large urn-shaped cystidia. *B. & Br.* Fries formerly referred Bulliard's figure to *A. repandus* Fr., which is *A. fibrosus* Sow., a species of Inocybe. Berkeley is still of his original opinion that Bulliard's plant is a true Entoloma. Name—*repandus*, bent backwards. From its form. *Bull. t.* 423. *f.* 2. *Fr. Hym. Eur. p.* 190. *Berk. Eng. Fl.* v. *p.* 78. *Out. p.* 143. *B. & Br. n.* 676*. *C. Hbk. n.* 251. *Illust. Pl.* 313.

422. A. placenta Batsch.—**Pileus** 4 cent. (1½ in.) broad, *brown*, fleshy, *convex then flattened*, umbonate, orbicular, even, *smooth*, moist when damp; flesh thin, becoming pale. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, *solid*, wholly fibrous, equal, *fibrilloso-striate, brown*. **Gills** emarginato-adnexed, crowded, rather thick, whitish then pallid flesh-colour.

Solitary, *inodorous*, taste at length acrid. Stem contorted according to Batsch.

In hedgerows, &c. Rare. April–Oct.

Name—*placenta*, a flat cake. *Batsch f.* 18. *Fr. Monogr.* i. *p.* 270. *Hym. Eur. p.* 190. *Berk. Out.* p. 143. *B. & Br. n.* 789, 1413*. *C. Hbk. n.* 249. *S. Mycol. Scot. n.* 240.

423. A. helodes Fr.—**Pileus** 5 cent. (2 in.) and more broad,

Entoloma. varying *cinereous, fuliginous and at the same time becoming purple*, slightly fleshy, fragile, *rather plane*, tough, umbonate, often depressed round the umbo, even when moist, smooth, but often as if variegated with tiger-spots, the spreading margin sometimes slightly striate; flesh thin, pallid. **Stem** 5–7.5 cent. (2–3 in.) long, 6 mm. (3 lin.) thick, fragile, *hollow*, rarely stuffed, equal or slightly thickened at the base, *cinereous-fibrillose*, becoming pallid cinereous. **Gills** *obtusely adnate* (in no wise decurrent with a tooth), or slightly sinuate, 6 mm. (3 lin.) broad, distinct, somewhat distant, quaternate, white then flesh-colour.

Pileus becoming pale when old, but not hygrophanous. Odour of new meal, taste watery.

On heathy pastures. Coed Coch.

Name—ἕλος, marsh. Growing in marshy places. *Fr. Monogr.* i. *p.* 270. *Hym. Eur. p.* 191. *B. & Br. n.* 790. *Berk. Out. p.* 143. *C. Hbk. n.* 250. *Illust. Pl.* 339. Var. *Pl.* 373.

424. A. Batschianus Fr.—**Pileus** 1–4 cent. (½–1½ in.) broad, *dark fuscous*, or fuliginous-black, *viscid, shining when dry*, not hygrophanous, *slightly fleshy*, at first slightly convex, scarcely umbonate, then depressed, even, smooth, margin at first manifestly involute; flesh of the same colour, white when dry. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, *hollow*, *moderately tough*, but not cartilaginous, wholly fibrous, equal or slightly attenuated at both ends, slightly striate with adpressed fibrils, grey. **Gills** narrowed behind, but wholly adnexed at the apex, plane, crowded when young, when full grown somewhat distant, dingy whitish then *cinereous* or fuliginous.

Odour obsolete. The spores are of a beautiful rose-colour, so that it is most certainly different from *A.* (*Colly.*) *murinus*.

On the ground. Coed Coch, 1881. Oct.

Spores rather irregular, 9 mk. *B. & Br.* Name—from Batsch who first figured the species as *A. murinus*. *Fr. Monogr.* i. *p.* 270. *Hym. Eur. p.* 191. *B. & Br.* 1936. *Illust. Pl.* 326. A. murinus *Batsch f.* 19 may be referred to this and to A. murinus alike.

425. A. Bloxami Berk.—**Pileus** 2.5 cent. (1 in.) or more broad, blackish-blue, compact, campanulate, very obtuse, somewhat lobed, moist, slightly silky; flesh very thick in the centre, white. **Stem** 4 cent. (1½ in.) long, 12 mm. (½ in.) thick, solid, slightly attenuated upwards, obtuse at the base, of the same colour as the pileus. **Gills** attenuated behind or slightly adnexed, moderately broad, pale pink.

In open exposed pastures. Uncommon. Oct.–Nov.

Spores irregular, subglobose, with a large globose nucleus. *B. & Br.*; very brilliant pink orange, 8 mk. *W.G.S.* Name—after Rev. A. Bloxam. *B. & Br. n.* 677. *Berk. Out. p.* 143. *C. Hbk. n.* 252. *Illust. Pl.* 327. *S. Mycol. Scot. n.* 241. *Price f.* 89. *Fr. Hym. Eur. p.* 191. Entoloma.

426. A. ardosiacus Bull.—**Pileus** 4–5 cent. (1½–2 in.) broad, *steel-blue-fuscous*, becoming blackish when young, becoming cinereous when older, but not truly hygrophanous, slightly fleshy, campanulate then convex, obtuse, even, smooth, moist. **Stem** commonly 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose or hollow, slightly attenuated upwards, smooth but easily splitting into fibres, remarkably *steel-blue*, white at the base. **Gills** *free*, broad, ventricose, but attenuated behind, crowded, white or grey then flesh-colour.

Inodorous. Pileus at length depressed. Stature very variable. It has occurred with the stem only 4 cent. (1½ in.) long, little exceeding 2 mm. (1 lin.) thick, and the pileus 2.5 cent. (1 in.) broad.

In moist meadows.

A doubtful native, introduced on the authority of Sibthorpe. *M.J.B.* Spores pretty regularly 5–7 angled, 6–8 mk. *B.*; globose, irregular, 8 mk. *Q.* Name—*ardosia* (low Latin), a slate. Slate-coloured. *Bull. t.* 348. *Fr. Monogr.* ii. *p.* 295. *Hym. Eur. p.* 191. *Icon. t.* 94. *f.* 4. *Berk. Out. p.* 144. *C. Hbk. n.* 253. *Illust. Pl.* 328.

427. A. ameides B. & Br.—**Pileus** 2.5–6 cent. (1–2½ in.) broad, pale reddish-grey, irregular, broadly campanulate, thin, gibbous, polished in the centre; margin white-flocculent, at length smooth, silky-shining, undulated. **Stem** stuffed, compressed, white-villous at the base, striate and fibrillose upwards, flocculent at the apex. **Gills** distant, slightly adnexed, wrinkled.

Varying from hemispherical in smaller specimens to campanulate. Smell peculiar, resembling a mixture of orange-flower water and starch. The whole plant acquires a reddish tint in drying. Large specimens at first sight closely resemble *Hygrophorus ovinus*.

In pastures. Bodelwyddan, Flintshire, 1863. Sept.

Spores irregular. Name—starch-scented. *B. & Br. n.* 999. *C. Hbk. n.* 255. *Illust. Pl.* 341. *Fr. Hym. Eur. p.* 192.

II.—Leptonidei.

428. A. Saundersii Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *white*, becoming fuscous when old, fleshy, campanulate then expanded, obtuse, repando-lobed, *adpressedly tomentose*. **Stem** 7.5 cent. (3 in.) long, 12 mm. (½ in.) thick, *solid*, equal, silky-fibrous, white. **Gills** slightly adnexed, broad, distant, reddish.

Entoloma. Not hygrophanous; widely removed from *A. majalis;* rather allied to *A. sinuatus, A. prunuloides,* or *A. fertilis.* Pileus sprinkled with atoms of soil.

On naked ground, and river sand. Rare. June.

Name—after W. W. Saunders. *Fr. Hym. Eur. p.* 192. *S. Mycol. Scot. Supp. Scot. Nat.* 1883, *p.* 30. *C. Illust. Pl.* 306. A. majalis *Saund. & Sm. t.* 46.

429. A. fertilis Berk.—**Pileus** 10 cent. (4 in.) and more broad, pinkish-buff, fleshy, obtuse, dry, smooth, pulverulento-squamulose. **Stem** fibrillose, somewhat squamulose, somewhat bulbous. **Gills** adnexed, flesh-colour.

Smell like that of new meal. Exactly the plant of Bulliard.

In woods. Rare. Autumn.

Name—*fertilis,* prolific. *Berk. Out. p.* 142. *Fr. Hym. Eur. p.* 193. *C. Illust. Pl.* 316. A. phonospermus *Bull. t.* 590, 547. *f.* 1.

430. A. jubatus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) and more broad, mouse-colour, not hygrophanous, somewhat fleshy, *campanulate then expanded* and flattened, umbonate, *floccoso-scaly and fibrillose* on the cuticle; flesh thin, of the same colour as the pileus, and easily scissile. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, fleshy-fibrous, though rigid, fragile, *hollow,* equal, becoming fuscous, and *clothed with fuliginous fibrils.* **Gills** *slightly adnexed,* somewhat emarginate, easily separating, crowded, ventricose, at first dark *fuliginous* (not fuscous-grey), then becoming beautifully purple-fuliginous.

Very distinguished; not nearly allied to any. Inodorous.

In old pastures and mossy places. Uncommon. July–Oct.

According to Worthington Smith it grows in dense clusters, but I have never seen more than two or three growing together. Spores extremely irregular, 7×11 mk. *W.G.S.;* 10–12 mk. *Q.* Name—*jubatus,* maned or crested. From the fibrillose pileus. *Fr. Monogr.* i. *p.* 272. *Hym. Eur. p.* 193. *Icon. t.* 92. *f.* 1. *B. & Br. n.* 1224. *C. Hbk. n.* 256. *Illust. Pl.* 317. *S. Mycol. Scot. n.* 242.

431. A. resutus Fr.—**Pileus** 2.5 cent. (1 in.) broad, becoming fuscous, disc darker, slightly fleshy, *convex,* somewhat obtuse, never umbilicate, the whole densely *floccoso-scaly,* sometimes with darker adpressed scales, sometimes becoming even, longitudinally fibrillose. **Stem** 4–5 cent. (1½–2 in.) and more long, 2 mm. (1 lin.) and more thick, wholly fibrous, soft, *stuffed,* at length hollow, equal, externally polished, *smooth,* slightly striate, somewhat grey. **Gills** *adnexed,* very ventricose, almost free, 4 mm. (2 lin.) broad, somewhat plane, rather crowded, rather thick, grey, at the first darker.

Inodorous. The disc is darker as in *Leptoniæ*. The gills are reddish with the spores (never becoming purple). Entoloma.

In old pasture. Glamis, 1874. Oct.

Name—*resutus*, ripped open, unstitched. From its longitudinally fibrillose appearance. *Fr. Monogr.* i. *p.* 273. *Hym. Eur. p.* 193. *Icon. t.* 92. *f.* 2. *B. & Br. n.* 1414. *S. Mycol. Scot. n.* 243. *C. Illust. Pl.* 318. *a.*

432. A. griseo-cyaneus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *grey or inclining to lilac*, not hygrophanous, slightly fleshy, *campanulate then convex, obtuse*, never depressed, *wholly floccoso-scaly*. **Stem** 4 cent. (1½ in.) long, 4–6 mm. (2–3 lin.) thick, in no wise cartilaginous, but wholly fibrous, *hollow, externally floccoso-fibrillose, pallid then becoming azure-blue*, sometimes wholly white. **Gills** *adnexed*, separating-free, ventricose, whitish then flesh-colour.

White when young. In habit and colours it approaches the *Leptoniæ* and often grows along with these, but it is wholly soft, and sufficiently distinct from its fibrous stem.

In pastures and open woods. Rare. Oct.

Spores irregular, full of angles, 8–10 mk. *K.* Name—*griseus*, grey; *cyaneus*, dark blue. *Fr. Monogr.* i. *p.* 274. *Hym. Eur. p.* 193. *Icon. t.* 94. *f.* 1. *B. & Br. n.* 1113. *C. Hbk. n.* 257. *Illust. Pl.* 318. *b. S. Mycol. Scot. n.* 244.

433. A. sericellus Fr.—**Pileus** 12 mm. (½ in.) or little more broad, *white or becoming yellow-white*, somewhat fleshy, *convex then plane*, obtuse, and at length depressed, often unequal, dry, even, *silky*, at length becoming smooth, but often squamulose, the margin, which is at the first inflexed, floccose; flesh thin, white, continuous. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, *somewhat fistulose, waxy* rather than fibrous, equal, fibrillose, white then becoming pale, at length somewhat polished, smooth. **Gills** *at first adnate*, even decurrent with a tooth, then separating and somewhat emarginate, very broad, slightly distant, white then flesh-colour.

Gregarious, small, thin, inodorous, changeable in its characters, but not in its habit. Most distinct and not allied to any other. *A. sericeus* Pers. (not Bull.) differs in its larger stature, its somewhat bulbous stem, its campanulate pileus, and crowded gills.

In woods, and grassy banks. Frequent. July–Oct.

According to Berkeley the stem is never fistulose, but I have found it somewhat fistulose as described by Fries. Spores irregular, full of angles, hyaline, 8–10 or 10–11 × 8 mk. *K.* Name—*sericeus*, silky. Slightly silky. *Fr. Monogr.* i. *p.* 274. *Hym. Eur. p.* 194. *Berk. Out. p.* 144. *C. Hbk. n.* 258. *Illust. Pl.* 307. *S. Mycol. Scot. n.* 245. *Quel. t.* 5. *f.* 5. A. inodorus *Bull. t.* 524. *f.* 2.

Entoloma. **434. A. Thompsoni** B. & Br.—**Pileus** 3 to nearly 5 cent. (1¼–2 in.) broad, grey tomentose, plane, adorned with raised radiating ribs which form reticulations in the centre. **Stem** 4 cent. (1½ in.) long, about 4 mm. (2 lin.) thick, fibrillose, tomentose, paler than the pileus. **Gills** broad, flesh-colour.

The structure seems entirely peculiar to this species, for the ribs are not like those of *A. phlebophorus*.

Among grass in plantation. West Farleigh.

Name—after Dr Thompson. *B. & Br. n.* 1523. *C. Illust. Pl.* 374.

III.—Nolanidei.

435. A. clypeatus Linn.—**Pileus** as much as 7.5 cent. (3 in.) broad, *lurid* when moist, when dry grey and *variegated or streaked with darker spots or lines*, fleshy, *campanulate then flattened*, umbonate, smooth, fragile; flesh thin, white when dry. **Stem** almost 7.5 cent. (3 in.) long, 6–8 mm. (3–4 lin.) and more thick, stuffed, at length hollow, *wholly fibrous*, equal, round, fragile, *longitudinally fibrillose*, becoming cinereous, pulverulent at the very apex. **Gills** *rounded-adnexed*, separating-free, 6–8 mm. (3–4 lin.) broad, ventricose, somewhat distant, dingy, then red-pulverulent with the spores, serrulated at the edge chiefly behind.

It has occurred in May cæspitose; better developed and solitary in the end of August.

In woods, gardens, and waste places. Frequent. Spring, Autumn.

Name—*clypeus*, a shield. From its shape. *Linn. Suec. n.* 1216. *Fr. Monogr.* i. *p.* 275. *Hym. Eur. p.* 194. *Berk. Out. p.* 144. *t.* 7. *f.* 6 (small). *C. Hbk. n.* 259. *Illust. Pl.* 319. *S. Mycol. Scot. n.* 246. *Hussey t.* 42. A. phonospermus *Bull. t.* 544. *Bolt. t.* 69. *Buxb. c.* 4. *t.* 6.

436. A. rhodopolius Fr.—**Pileus** 5–12.5 cent. (2–5 in.) broad, hygrophanous, when moist fuscous (young) or livid, becoming pale (when full grown), *when dry isabelline-livid, silky-shining*, slightly fleshy, campanulate when young, then expanded and somewhat umbonate or gibbous, at length rather plane and sometimes depressed, *fibrillose* when young, *smooth when full grown*, margin at the first bent inwards and when larger undulated; flesh white. **Stem** 5–10 cent. (2–4 in.) long, 6–10 mm. (3–5 lin.) thick, *hollow*, equal when smaller, when larger attenuated upwards and *white-pruinate at the apex*, otherwise *smooth*, slightly striate, *white*. **Gills** adnate then separating, somewhat sinuate, slightly distant, 4–8 mm. (2–4 lin.) broad, *white then rose-colour*.

Fragile, commonly large and often handsome, almost inodorous. Entoloma.

In mixed woods. Frequent. Aug.–Oct.

Smell like that of new meal. *M. J. B.* Spores irregular, angled, 6–10 mk. *K.*; pretty regularly 6-angled, 8–10 × 6–8 mk. *B.*; 7 mk. *W. G. S.* Name—ῥόδον, rose; πολιός, grey. *Fr. Monogr.* i. *p.* 275. *Hym. Eur. p.* 195. *Berk. Out. p.* 145. *C. Hbk. n.* 260. *Illust. Pl.* 342. *S. Mycol. Scot. n.* 247. *Bolt. t.* 6. *Fl. Dan. t.* 1736. *Krombh. t.* 55. *f.* 17–22.

437. A. majalis Fr.—**Pileus** when flattened 4–6 cent. (1½–2½ in.) broad, *somewhat cinnamon*, ochraceous-pale yellow when dry, fleshy-membranaceous, *scissile*, *campanulate* then convex, somewhat umbonate, somewhat fragile, smooth, even; at the margin repand, easily rimoso-incised. **Stems** 7.5–10 cent. (3–4 in.) long, 4–6 mm. (2–3 lin.) thick, often connate at the base, *fistulose*, somewhat compressed, *twisted*, *striate*, somewhat fibrillose, whitish; slightly thickened at the base, white-tomentose. **Gills** free, in groups of 4–12, *ventricose*, crowded, crenate, pallid, *flesh-coloured* with the rosy spores.

The pileus is so thin that in moist specimens it appears as if variegated with darker striæ from the translucent gills. Cæspitose, slender. There is a variety, softer, paler in colour, appearing in summer, which resembles *Sow. t.* 174.

In meadows and open woods. Rare. April–May.

Name—*Majus* (*mensis Maius*) the month of May. From the time of its appearance. *Fr. Monogr.* i. *p.* 276. *Hym. Eur. p.* 196. *Icon. t.* 94. *f.* 2. *B. & Br. n.* 998. *C. Hbk. n.* 261. *S. Mycol. Scot. n.* 248.

438. A. Wynnei B. & Br.—**Pileus** fuliginous, at first plane, velvety, then convex, squamulose, hygrophanous; margin striate, often undulated. **Stem** fuliginous-azure-blue, compressed, cottony at the base. **Gills** broad, transversely ribbed, pallid, crenulate at the margin.

Odour of bugs. Allied to *A. costatus* with which it agrees in size.

In fir woods. Coed Coch, 1872. Sept.

Name—after Mrs Lloyd Wynne. *B. & Br. n.* 1342. *C. Illust. Pl.* 329.

439. A. costatus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, hygrophanous, fuscous-livid, becoming pale when dry, or shining black when scorched by the sun, fleshy-membranaceous, *convexo-bullate*, undulated and irregularly shaped, at length rather plane, more or less *umbilicate*, smooth, margin at first bent inwards; flesh very thin, scissile, of the same colour as the pileus. **Stem** 5 cent. (2 in.) long, 6–8 mm. (3–4 lin.) thick, hollow, irregularly shaped, often compressed, somewhat striate, grey, *white-*

Entoloma.

mealy at the apex. **Gills** somewhat free, very broad, transversely *veined with raised ribs*, undulated, but not serrated, pallid then flesh-colour.

Commonly forming large crowded clusters, very *fragile*, hence the irregularity of the stem. Allied to *A. sericeus*, but inodorous.

In grassy pastures. Common. Oct.

Readily distinguished by the gills. *B. & Br.* Spores irregular, subglobose, with a globular nucleus. *B. & Br.*; 12–14 × 8–10 mk. *B.* Name—*costa*, a rib. From the ribbed gills. *Fr. Monogr.* i. *p.* 277. *Hym. Eur. p.* 196. *Berk. Out. p.* 145. *B. & Br. n.* 679. *C. Hbk. n.* 262. *Illust. Pl.* 320. *a.*

440. A. sericeus Bull.—**Pileus** 2.5 cent. (1 in.) and more broad, hygrophanous, *umber*, becoming pale with *a silky appearance* when dry, fleshy-membranaceous, *convex then plane*, obtuse, somewhat repand, even, smooth; margin at the first involute, striate; flesh very thin, scissile, umber. **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, fibroso-fissile, *fistulose*, equal or thickened upwards, *fibrillose, grey*. **Gills** emarginate, slightly adnexed, horizontal, *equally attenuated from the stem to the margin* (not ventricose), grey then rufescent, even at the sides.

Gregarious, small but slightly firm, *with a strong odour of new meal*, by which it is readily distinguished from *A. pascuus*, and other somewhat similar species. It is distinguished from *A. pascuus* besides by the form and involute margin of the pileus, and by the gills being quite entire and attenuated from the stem towards the margin.

In meadows and open woods. Frequent. May–Oct.

Spores 5–7 angled, 10 × 7–8 mk. *B.* Name—*sericeus*, silky. *Bull. t.* 413. *f.* 2. *Fr. Monogr.* i. *p.* 277. *Hym. Eur. p.* 196. *Berk. Out. p.* 145. *C. Hbk. n.* 263. *Illust. Pl.* 320. *b. S. Mycol. Scot. n.* 249.

441. A. Persoonianus Phil. & Plow.—**Pileus** 12 mm. (½ in.) broad, shining white, then becoming pale, somewhat fleshy, very fragile, convex, obtusely umbonate, silky-shining. **Stem** rather long, somewhat bulbous and solid at the base, otherwise hollow, comparatively thin, 5 mm. (2½ lin.) thick, piloso-squamulose on the surface. **Gills** somewhat adnexed, crowded, 4 mm. (2 lin.) broad, obovate or broader towards the apex, red-flesh-colour, but rendered darker when the spores are mature.

The bulb in our plant is much more decided than in Persoon's fig., having a distinct abrupt margin, and the pileus is not so fleshy. The large angular spores are as wide as the basidia, and the hymenium abounds with large cystidia.

On the ground in grassy places. East Dereham, &c. Feb.–Oct.

Spores, including the angles, .015 mm. *Phil. & Plow.*; 10×13 mk. *B. & Br.* Name—from Persoon. *Phil. & Plow. Gard. Chron.* 1881, *p.* 874. *C. Illust. Pl.* 315. A. Persoonii *Du Port, Grevillea, vol.* x. *p.* 42. A. bulbigenus *B. & Br. n.* 1937. A. sericeus *Pers. Icon. & descr. t.* 6. *f.* 2. Entoloma.

442. A. nidorosus Fr.—**Pileus** as much as 7.5 cent. (3 in.) broad, fawn-cinereous when fresh, livid when dry, somewhat membranaceous (composed of two thin plates), convex then expanded, and at length often concave and irregularly shaped, rimose, very fragile, wholly smooth, but silky shining when dry. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, *stuffed*, almost solid, wholly equal, smooth, even, becoming pale-white, white-pruinose at the apex. **Gills** emarginato-free, broad (6 mm., 3 lin., and more), at length *distant*, fragile, pallid then flesh-colour, sometimes undulato-flexuous.

Fragile, with a *strong alkaline smell*, but it also occurs inodorous. Much thinner than *A. rhodopolius*, which is somewhat like it.

On lawns, and in open woods. Common. Aug.–Sept.

Spores elliptic. *M. J. B.*; irregular, full of angles, 7–10 mk. *K.*; 8–10×7–8 mk. *B.*; 8 mk. *W.G.S.* Name—*nidor*, smell. Strong-smelling. *Fr. Monogr.* i. *p.* 278. *Hym. Eur. p.* 196. *Icon. t.* 94. *f.* 2. *Berk. Out. p.* 145. *C. Hbk. n.* 264. *Illust. Pl.* 321. *S. Mycol. Scot. n.* 250.

443. A. speculum Fr.—**Pileus** when moist watery or straw-white, silvery when dry, in either state shining *and without a silky appearance*, hygrophanous, almost membranaceous or composed of two scissile membranes, pellucid when moist, at first convex, soon flattened and depressed, but the disc is also obtusely and obsoletely umbonate, even, very smooth, margin thin, bent inwards, flexuous, pellucid-striate. **Stem** 5–7.5 cent. (2–3 in.) long, about 4 mm. (2 lin.) thick, fistulose, smooth, round when young, then compressed, shining. **Gills** slightly adnexed, broadly emarginate near the stem, 6–8 mm. (3–4 lin.) broad, very ventricose, flaccid, the shorter ones narrower, white then flesh-colour, the edge, which is quite entire, becoming fuscous.

Very fragile, *inodorous*, becoming wholly *pale-white*. Primary form somewhat cæspitose, thinner, pileus repand, obtuse; another solitary, firmer, pileus regular, depressed round the obtuse umbo.

On the ground among grass, &c. Coed Coch, 1881, &c. Oct.

Spores irregular, 13 mk. *B. & Br.* Name—*speculum*, a mirror. From its shining appearance. *Fr. Monogr.* i. *p.* 278. *Hym. Eur. p.* 197. *Icon. t.* 95. *f.* 2. *B. & Br. n.* 1938. *C. Illust. Pl.* 308. *Batt. t.* 20. *f. D—F.*

Clitopilus.

Subgenus XIV. **CLITOPILUS** (κλίτος = κλιτύς, a declivity; πῖλος, a cap). Fr. Epicr. p. 148. Rosy-spored. Stem fleshy or fibrous, diffused upwards into the pileus, the margin of which is at first involute. Hymenophore continuous with the stem; gills equally attenuated behind and somewhat decurrent, not separating or sinuate. *Growing on the ground, often strong-smelling, pileus more or less depressed or umbilicate, with a similarly coloured umbilicus. Fr. Hym. Eur. p.* 197.

XV. Agaricus (Clitopilus) prunulus. One-third natural size.

Clitopilus corresponds with *Clitocybe*, and differs from *Entoloma* as *Clitocybe* differs from *Tricholoma.*

I. Orcelli (A. Orcella). Gills deeply decurrent. *Pileus irregular, somewhat excentric, flexuous, scarcely hygrophanous, margin at first flocculose.*

II. Sericelli (slightly silky). Pileus regular, silky or hygrophanous-silky, margin involute, naked. Gills adnate, slightly decurrent.

I.—Orcelli.

444. A. prunulus Scop.—**Pileus** 5–10 cent. (2–4 in.) broad, white or more rarely becoming cinereous, truly fleshy, *compact*, convex then flattened, and at length depressed and repand or unequal, *delicately pruinate*, hence the surface is unpolished and dry; flesh thick, white, unchangeable. **Stem** 2.5 cent. (1 in.) and more long, about 12 mm. (½ in.) thick, *solid*, firm, somewhat ventricose, *naked*, often striate, white, villous at the base. **Gills** deeply decurrent, attenuated at both ends and chiefly behind, *somewhat distant*, quite entire, white then flesh-colour.

The pileus is always firm, never viscid, and not zoned or spotted. The gills are less crowded than those of *A. Orcella.* Odour pleasant, of *new meal.* There is a white variety (*Quel. t.* 5. *f.* 3 and Orcella *f.* 2), which forms a connecting link with *A. Orcella.* A. prunulus *Viviani t.* 3 represents *A. graveolens.*

In woods and open ground. Common. July–Oct.

It has been reckoned among the most delicious of edible species, and it has the advantage of appearing early in the season. It may also be dried and preserved for future use. It is easily distinguished by the pure pink gills running a considerable way down the stem, and by its fragrant scent of fresh meal. It never appears anywhere in profusion. Spores 10–16 × 6 mk. *K.;* 12–14 × 4–6 mk. *B.;* 11 × 6 mk. *W.G.S.* Name—*prunus*, plum. *Scop. Carn.* ii. *p.* 437. *Fr. Monogr.* i. *p.* 279. *Hym. Eur. p.* 197. *Sverig. ält. Sv. t.* 19.

Berk. Out. p. 145. *t.* 7. *f.* 7. *C. Hbk. n.* 265. *Illust. Pl.* 322. *S. Mycol. Scot. n.* 251. *Hussey* ii. *t.* 47. A. albellus *Schæff. t.* 78. A. pallidus *Sow. t.* 143. A. Sowerbei *Krombh. t.* 55. *f.* 7, 8. Clitopilus.

* **A. Orcella** Bull.—**Pileus** *becoming yellow-white*, fleshy, *soft*, plano-depressed, at the first irregular, slightly silky, *somewhat viscid when moist.* **Stem** curt, solid, *flocculose, thickened upwards.* **Gills** deeply decurrent, *crowded*, whitish-flesh-colour.

It differs from *A. prunulus*, but not in habit and structure. Commonly smaller; pileus thinner, often spotted and zoned, margin at length undulato-lobed; the softer flesh unchangeable. Stem often excentric. Gills more crowded. Odour wholly that of *A. prunulus;* growing in troops.

In open grassy ground. Frequent. July–Oct.

Its lobed and undulated pileus makes it resemble *Cantharellus cibarius* in outline. Edible and delicate in flavour. Spores 9×4 mk. *W.G.S. Bull. t.* 573. *f.* 1, 591. *Fr. Hym. Eur. p.* 197. *Monogr.* i. *p.* 280. *Sverig. ält. Sv. t.* 20. *Worth. Sm. Trans. Woolh. Club*, 1869, *fig. C. Hbk. n.* 265. *Illust. Pl.* 323. *S. Mycol. Scot. n.* 252. *Badh.* i. *t.* 13. ii. *t.* 11. *f.* 1–2. *Vittad. t.* 12. *f.* 2. *Ventur. t.* 14. *f.* 1–3. A. obesus *Batsch f.* 216. *Batt. t.* 39. *A. B.* ?

445. A. mundulus Lasch.—**Pileus** about 5 cent. (2 in.) broad, becoming pale-white, then spotted cinereous, at length becoming black, *fleshy, thin;* when young convex and somewhat gibbous with an involute margin, *floccoso-soft*, soon flattened and depressed, unequal, repand and often excentric, even or rivulose; flesh soft, white. **Stem** about 2.5 cent. (1 in.) long, 4 mm. (2 lin.) thick, *stuffed*, somewhat equal, *floccoso-villous* then becoming smooth, white-villous at the base, *at length becoming black internally.* **Gills** *deeply decurrent*, very *crowded*, narrow, thin, with many shortened ones intermixed, pallid.

Closely related to *A. prunulus*, but most evidently distinct. When young slightly tough. Odour obsolete; taste bitter, by which it is well distinguished from *A. prunulus*, &c. In var. *nigrescens* the whole flesh becomes black. *Lasch n.* 521.

In woods among leaves. Uncommon.

Spores 8–11×4–5 mk. *B.* Name—*mundus*, neat, elegant. *Lasch n.* 518. *Fr. Monogr.* i. *p.* 280. *Hym. Eur. p.* 198. *Berk. Out. p.* 146. *C. Hbk. n.* 267. *Illust. Pl.* 375. *A. S. Mycol. Scot. n.* 253. A. alutaceus *Batsch f.* 119. *Battar. t.* 16. *f.* F.

446. A. popinalis Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *cinereous*, here and there mottled with guttate spots, slightly fleshy, *flaccid*, convex then depressed, somewhat repand, smooth, opaque; flesh whitish-grey, unchangeable. **Stem** 2.5–5 cent. (1–2 in.) long, 4 mm. (2 lin.) thick, stuffed, equal, often flexuous, naked, paler than the pileus. **Gills** deeply decurrent, broader than the flesh of the pileus, lanceolate, crowded, dark grey, at length reddish with the spores.

Clitopilus. Solitary or gregarious, with a pleasant *smell of new meal.*

On downs. Worthing, 1865. Oct.

A curious species, probably esculent. *B. & Br.* Name—*popina*, a cook-shop. Referring to its edible qualities. *Fr. Monogr.* i. *p.* 280. *Hym. Eur. p.* 198. *Icon. t.* 96. *f.* 1. *B. & Br. n.* 1114. *C. Hbk. n.* 268. *Illust. Pl.* 485.

447. A. undatus Fr.—**Pileus** about 4 cent. (1½ in.) broad, *fuliginous cinereous*, becoming pale (not hygrophanous) and slightly silky-opaque when dry, *slightly fleshy*, fragile, *deeply umbilicate*, sometimes infundibuliform, unequal, *undulated*, without striæ. **Stem** scarcely 2.5 cent. (1 in.) long, often very short, almost 4 mm. (2 lin.) thick, entirely fibrous, hollow, unequal, compressed, somewhat attenuated at the base and covered downwards with whitish pubescence. **Gills** deeply decurrent, not crowded, distinct, 4 mm. (2 lin.) broad, thin, quite entire, *dark cinereous.*

Pileus often somewhat zoned. *Odour none.* A most distinct species, with the *rubiginous spores* of *Claudopus.*

In open downs. Batheaston, &c. Oct.

Spores subsphæroid, irregular, subhyaline, 6–8 mk. *K.*; 6 mk. *W.G.S.*; polygonal, 13 mk. *Q.* Name—*undo*, to swell in waves. Waved. *Fr. Monogr.* i. *p.* 281. *Hym. Eur. p.* 199. *Icon. t.* 96. *f.* 4. *B. & Br. n.* 1000. *C. Hbk. n.* 269. *Illust. Pl.* 486. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 22.

448. A. cancrinus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *whitish-tan* or wholly white, becoming pale, not hygrophanous, slightly fleshy, *somewhat membranaceous*, at first convex with the margin involute, then rather plane, very irregularly shaped and at length broken into cracks, without striæ, rather smooth, but without a cuticle, and therefore becoming *flocculoso-even*, never slightly viscid or zoned; flesh not scissile, white, hyaline at the gills. **Stem** *curt*, scarcely 2.5 cent. (1 in.) long, 2–4 mm. (1–2 lin.) thick, white, stuffed or fistulose, sometimes straight, sometimes ascending, round or compressed, equal or when smaller thickened at the apex, smooth. **Gills** *truly decurrent, distant*, distinct, broader near the stem, 3 mm. (1½ lin.) broad, rather thick, arcuate when young, straight when the pileus is flattened, white then flesh-colour.

Inodorous, with the habit of *A. sericellus.* The white down (mycelium) at the base gathers the soil into a ball.

In grass fields. Apethorpe. Aug.

Name—*cancer*, a lattice, a network of crossed laths. From the chinky appearance of the pileus when broken into cracks. *Fr. Monogr.* i. *p.* 281. *Hym. Eur. p.* 199. *Icon. t.* 95. *f.* 4. *B. & Br. n.* 1115. *C. Hbk. n.* 270. *Illust. Pl.* 501.

449. A. cretatus B. & Br.—**Pileus** 6–18 mm. (¼–¾ in.) broad, of a dead white, but shining, membranaceous, at first convex then umbilicate, not striate, margin involute. **Stem** very short, a few lines long, 2 mm. (1 lin.) thick, often curved at the base and sometimes thickened, tomentose especially below, white. **Gills** very decurrent, narrow, rose-colour. Clitopilus.

Mycelium white, floccose. Single or gregarious. Closely allied to *A. prunulus*, but apparently constant.

On naked soil in woods and pastures. Uncommon.

Spores 7×3 mk. *W.P.* Name—*creta*, chalk. Chalky-white. *B. & Br. n.* 903. *C. Hbk. n.* 266. *Fr. Hym. Eur. p.* 199. *C. Illust. Pl.* 375. *B.*

II.—Sericelli.

450. A. carneo-albus With. *White.*—**Pileus** 2.5 cent. (1 in.) broad, somewhat fleshy, convexo-plane, orbicular, even, slightly silky, somewhat disc-shaped. **Stem** stuffed, hollow, unequal, *fibroso-striate.* **Gills** adnato-decurrent, thin, somewhat distant, white then flesh-colour.

Disc at length depressed, rufescent. Inodorous, gregarious.

In heathy places. Rare. Sept.

Pileus white, polished, centre rather depressed, edge turned down, about an inch over; stem solid, white, cylindrical, about an inch high, thick as a crow-quill; gills decurrent, salmon-coloured, mostly in pairs, narrow, not crowded. *With.* Spores angled. *Fr.*; 7 mk. *W.P.* Name—*caro*, flesh; *albus*, white. *With.* iv. *p.* 170. *Fr. Hym. Eur. p.* 200. *Monogr.* i. *p.* 282. *Kalchbr. Hung. t.* 12. *f.* 2. *Grevillea, vol.* xi. *p.* 69. *C. Illust. Pl.* 324. *a.*

451. A. vilis Fr.—**Pileus** 2.5 cent. (1 in.) broad, grey, *somewhat membranaceous*, convex, umbilicate, soft, when dry silky-fibrillose, opaque. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) or a little more thick, *fistulose*, equal, somewhat tough, but fibroso-fissile, *of the same colour as the pileus*, fibrilloso-striate (not, however, flocculoso-fibrillose), white-villous at the base. **Gills** plano-decurrent or adnate with a decurrent tooth, in no wise sinuate, nearly triangular, crowded, almost extending beyond the margin of the pileus, whitish.

Habit almost that of *A. pascuus*, but the form is plainly different.

Among moss, &c. Leigh Down. Aug.

Name—*vilis*, of small value. From its trivial appearance. *Fr. Monogr.* i. *p.* 282. *Hym. Eur. p.* 200. *C. Illust. Pl.* 487.

452. A. stilbo-cephalus B. & Br.—**Pileus** campanulate, obtuse, and sometimes umbonate, hygrophanous, when dry whitish,

Clitopilus. somewhat silky, sparkling, margin straight. **Stem** hollow, somewhat equal, undulato-fibrous, silky. **Gills** broad, adnate, and sometimes emarginate behind, veined.

Ascot.

Name—στίλβω, to glisten; κεφαλή, head. From the sparkling pileus. *B. & Br. n.* 1758. *C. Illust. Pl.* 324. *b.*

Leptonia. *Subgenus XV.* **LEPTONIA** (λεπτός, slender). Fr. Syst. Myc. i. p. 201. Rosy-spored. Stem *cartilaginous*, tubular (the tube stuffed or hollow), polished, somewhat shining. Pileus *thin*, umbilicate or with a darker disc, cuticle fibrillose or separating into darker scales, *margin at first incurved.* Gills at first adnexed or adnate, but readily separating. *Fr. Hym. Eur. p.* 201.

XVI. Agaricus (Leptonia) lampropus. One-half natural size.

The *Leptoniæ* are related to the *Clitopili* as the *Collybiæ* are to the *Clitocybæ.* The species are small, elegant, brightly coloured, inodorous (except *A. incanus*), and abound *in rainy weather.* Gregarious or growing in troops; on the ground, commonly on dry mossy pastures, but also in marshy places.

* *Gills whitish.* Pileus slightly fleshy, without striæ, not hygrophanous.

** *Gills at the first azure-blue or slightly dark-blue.*

*** *Gills becoming fuscous- or dark-purple.*

**** *Gills pallid.* Becoming pale, yellow or green.

***** *Gills grey or glaucous.* Hygrophanous, pileus somewhat striate.

* *Gills whitish*, &c.

453. A. placidus Fr.—**Pileus** 2.5 cent. (1 in.) or a little more broad, fleshy-membranaceous, campanulate then convex, obtuse, without striæ, disc densely villous and blackish, otherwise at the very first squamulose on the cinereous-whitish ground with fuliginous-black fibrils, sometimes at the first flocculose, becoming grey-azure-blue, then with dark concentric scales on a white ground. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, *stuffed*, equal, very rigid, smooth, but *white-pruinose* and under a lens *black-dotted* at the somewhat thickened apex, otherwise even,

smooth, *dark azure-blue or black-blue.* **Gills** annexed, very broad behind, plane, crowded, whitish, edge of the same colour. Leptonia.

Variable. Commonly solitary. The form in which the pileus is variegated with darker, here and there concentric scales is larger.

Around beech-trunks. Downton, 1880. Autumn.

Name—*placidus*, placid. Pleasing. *Fr. Monogr.* i. *p.* 284. *Hym. Eur. p.* 201. *Icon. t.* 97. *f.* 1. *C. Illust. Pl.* 330.

454. A. lappula Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, grey, somewhat fleshy, hemispherical, convexo-plane, *umbilicate*, without striæ, at the first flocculoso-soft, when full grown *roughish* with *short erect fibrils*, which *become black*, and which are crowded towards the centre (rendering it darker), hence the grey pileus appears black-dotted. **Stem** 4–5 cent. (1½–2 in.) long, 2–4 mm. (1–2 lin.) thick, *very fistulose*, equal, moderately tough, under a lens striate and *black-dotted upwards*, fuscous-lilac or dark purple, white-villous at the base. **Gills** at first adnate with a small tooth, when full grown separating, plane, very broad (ovate in form), crowded, distinct, quaternate, white-grey.

Inodorous.

Among beech-leaves. Forres. Autumn.

Name—*lappa*, a bur. From the prickly pileus. *Fr. Monogr.* i. *p.* 285. *Hym. Eur. p.* 202. *Icon. t.* 97. *f.* 2. *B. & Br. n.* 1225. *S. Mycol. Scot. n.* 254.

455. A. lampropus Fr.—**Pileus** mouse-colour or steel-blue then fuliginous-grey (changing colour but not hygrophanous), somewhat fleshy, convex then expanded (not campanulate), obtuse and at length depressed, when young rather even (never striate) then more or less squamulose. **Stem** 2.5–4 cent. (1–1½ in.) long, *rather thick*, 4 mm. (2 lin.), fistulose, wholly cartilaginous, smooth, even, *not dotted*, becoming azure-blue, commonly steel-blue-violaceous. **Gills** adnate, readily separating, then free, ventricose, whitish then slightly rose-colour.

The pileus when fresh is opaque, continuous, neither umbilicate nor papillate. Very different from *A. asprellus* which may be easily taken for it; in *A. asprellus* the stem is slender, the membranaceous pileus hygrophanous, striate when moist, the heterogeneous umbilicus darker, the gills grey. *A. glaucus* Bull. t. 521 differs in habit, in the slender stem, the striate pileus, &c., but it cannot be referred to any other. The colour is not glaucous.

In pastures. Common. July–Nov.

Spores irregular, 5–7 angled, 10–14 × 6–8 mk. *B.* Name—λαμπρός, shining; πούς, foot. From the shining stem. *Fr. Monogr.* i. *p.* 285. *Hym. Eur. p.* 202. *Berk. Out. p.* 146. *C. Hbk. n.* 275. *Illust. Pl.* 331. *S. Mycol. Scot. n.* 255.

Leptonia.

456. A. æthiops Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *black then fuliginous*, slightly fleshy, *plano-depressed*, without striæ, *streaked with fibrils, smooth* however, shining. **Stem** 4–5 cent. (1½–2 in.) long, slender, scarcely 2 mm. (1 lin.) thick, *somewhat stuffed*, smooth, *fuscous-blackish, black-dotted upwards*. **Gills** adnexed or adnate, sometimes linear, sometimes ventricose, *whitish*, edge which is of the same colour quite entire.

The pileus is not hygrophanous, but when young and dried is shining black. It differs from *A. lampropus* in the pileus, which is at the first depressed, and the stem being thinner, the former becoming smooth and shining, the latter black-dotted. It differs from *A. serrulatus*, to which it is certainly nearest, in the absence of an umbilicus, and in the gills in no wise becoming dark-blue and being quite entire and of the same colour at the edge.

In grassy places in woods. Killin, 1876, &c. Sept.

Spores irregularly 6-angled, 10–13 × 8 mk. *B.* Name—Αἰθίοψ, an Ethiopian. Black. *Fr. Monogr.* i. *p.* 286. *Hym. Eur. p.* 202. *Icon. t.* 97. *f.* 3. *B. & Br. n.* 1649. *S. Mycol. Scot. n.* 256. *C. Illust. Pl.* 332. *a.*

457. A. solstitialis Fr.—**Pileus** becoming fuscous, slightly fleshy, at length depressed, papillate in the centre, slightly wrinkled, obsoletely *innato-fibrillose*. **Stem** somewhat fistulose, smooth, not dotted, *smoke-colour*. **Gills** *emarginate*, broad, whitish, of the same colour at the edge.

It differs from *A. æthiops* in its papillate, slightly wrinkled, fuscous pileus, and its smoke-coloured, not dotted stem.

Among stones and on grassy ground. Loch Kinord, &c. Aug.–Sept.

Spores very irregular, 6-angled, 12–18 × 6–8 mk. *B.* Name—*solstitium*. From the summer solstice. *Fr. Hym. Eur. p.* 202. *Monogr.* i. *p.* 286. *B. & Br. n.* 1226. *S. Mycol. Scot. n.* 257. *C. Illust. Pl.* 332. *b. Kalchbr. t.* 12. *f.* 3.

*** Gills at the first azure-blue or slightly dark-blue.*

458. A. serrulatus Pers.—**Pileus** at first blackish-blue (shining when dried), fuliginous when old, not hygrophanous, slightly fleshy, convex, umbilicato-depressed, without striæ, squamulose. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, cartilaginous, somewhat fistulose, equal, smooth, paler than the pileus, black-dotted at the apex, white-woolly at the base. **Gills** adnate, in the form of a segment, broad in the middle, bluish-grey-whitish, *with a black serrulated edge*, at length grey-flesh-colour.

The stem varies black, azure-blue, bluish-grey, glaucous, and grey. The pileus is black and shining when scorched by the sun, but fuliginous and slightly striate in moist weather. In damp groves it is paler and black-streaked. There is a *thinner* variety with the stem smooth and grey-fuscous,

the pileus membranaceous, hemispherical, umbilicate, slightly striate, fuligi- Leptonia.
nous then grey, the darker umbilicus scarcely fibrillose, and the gills paler, and whitish at the base.

In pastures and grassy woods. Frequent. July–Oct.

Spores subellipsoid-sphæroid, irregular, much angled, 9–10 × 7–8 mk. *K.*; 10–12 × 6–8 mk. *B.* Name—*serrula*, a saw. From the toothed edge of the gills. *Pers. Syn.* i. 463. *Fr. Monogr.* i. *p.* 286. *Hym. Eur. p.* 203. *Berk. Out. p.* 146. *C. Hbk. n.* 276. *Illust. Pl.* 333. *S. Mycol. Scot. n.* 258. *Holmsk. Ot.* 2. *t.* 38.—Var. expallens. A. columbinus *Bull. t.* 413. *f.* 1.

459. A. euchrous Pers.—**Pileus** scarcely reaching 2.5 cent. (1 in.) broad, at first violaceous, at length purple-fuliginous, slightly fleshy, convex, obtuse, without striæ, squamuloso-fibrillose. **Stem** about 4 cent. (1½ in.) long, 2 mm. (1 lin.) thick, stuffed, equal, smooth, naked, even (*not dotted*), tough, dark violaceous. **Gills** adnate, very ventricose, plane, dark violaceous, but becoming pale, the edge which is quite entire retaining the darker colour.

Solitary or gregarious, according to Persoon cæspitose.

On trunks and stumps, alder, &c. Rare. Oct.

I have found several specimens growing together in a cæspitose manner. The colour is very fine, intense blue-violet with a tendency to deepen into purplish violet. Spores very irregular, 5–6 angled, 10 × 6–8 mk. *B.* Name—εὖ, well; χρώς, colour. Finely-coloured. *Pers. Syn. p.* 343. *Fr. Monogr.* i. *p.* 287. *Hym. Eur. p.* 203. *Berk. Out. p.* 146. *C. Hbk. n.* 277. *Illust. Pl.* 334. *S. Mycol. Scot. n.* 259. *b.* cæspitosus *B. & Br. n.* 791.

460. A. chalybœus Pers.—**Pileus** about 2.5 cent. (1 in.) broad, dark violaceous or blackish blue, slightly fleshy, convex, somewhat umbonate, without striæ, at the first flocculose, then squamulose. **Stem** 4–5 cent. (1½–2 in.) long, 2 mm. (1 lin.) thick, cartilaginous, stuffed, slightly firm, smooth, even (not black-dotted), dark blue. **Gills** adnate, crowded, broad, ventricose, bluish-grey-whitish, *somewhat paler at the edge.*

The habit is that of *A. lampropus*, but it is very different in its entire structure, its thin stem, and the colour of the pileus and gills.

In pastures. Frequent. July–Oct.

Name—χάλυψ, steel. From its steel-blue colour. *Pers. Syn. p.* 343. *Ic. pict. t.* 4. *f.* 3, 4. *Fr. Monogr.* i. *p.* 287. *Hym. Eur. p.* 203. *Berk. Out. p.* 147. *C. Hbk. n.* 278. *Illust. Pl.* 335. *S. Mycol. Scot. n.* 260. *Krombh. t.* 2. *f.* 11, 12. A. columbinus *Sow. t.* 161.

461. A. lazulinus Fr.—**Pileus** becoming black-fuliginous, *somewhat membranaceous*, campanulate, then expanded and obtuse, *striate*, at first smooth, then more expanded and obsoletely

Leptonia. umbilicate, rimoso-squamulose. **Stem** cartilaginous, fistulose, smooth, even, dark blue, white-woolly at the base. **Gills** adnate, separating, pallid deep blue, *equally attenuated* from the stem to the margin of the pileus, edge of the same colour.

Gregarious, fragile. Its stature approaches nearer to *A. asprellus* than to *A. chalybæus*, with which it is often confounded: allied to *Nolaneæ*. There are two remarkable forms, one with the pileus at first black blue, the other date-brown-mouse-colour, with darker disc.

On the ground among grass. Aber, 1867. Sept.

Name—from *Lapis lazuli*, ultramarine. From the colour of the stem. *Fr. Monogr.* i. *p.* 288. *Hym. Eur. p.* 203. *B. & Br. n.* 1227.

**** *Gills pallid, &c.*

462. A. incanus Fr.—**Pileus** 2.5 cent. (1 in.), variegated fuscous and green, becoming cinereous when dry, somewhat membranaceous, fragile, convex then expanded, umbilicate, striate, *smooth*, slightly silky when dry. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, fistulose, remarkably cartilaginous, even, smooth, green or fuscous-green, neither pruinose nor rough-dotted at the apex. **Gills** adnate, decurrent with a tooth, at length separating, 4–6 mm. (2–3 lin.) broad at the middle, plane, *distant, whitish-green*, then flesh-colour.

The pileus is more rarely fibrillose at the disc. Gregarious. According to Secretan the stem varies azure-blue.

In pastures. Frequent. July–Sept.

The stem often with beautiful verdigris-coloured down at the base. Smell exactly like that of mice. *M. J. B.* Spores 8 mk. *W. G. S.*; oval. *M. J. B.* Name—*incanus*, grey, hoary. *Fr. Monogr.* i. *p.* 289. *Hym. Eur. p.* 204. *Berk. Out. p.* 147. *C. Hbk. n.* 279. *Illust. Pl.* 336. *S. Mycol. Scot. n.* 261. A. murinus *Sow. t.* 162.

463. A. formosus Fr.—**Pileus** 2.5 cent. (1 in.) broad, *yellow-wax colour, sprinkled over with minute* fuscous *squamules or fibrils*, somewhat membranaceous, slightly tough, convex then plane, umbilicate, striate. **Stem** 5 cent. (2 in.) long, scarcely 2 mm. (1 lin.) thick, cartilaginous, somewhat fistulose, but internally stuffed with soft white flocci, equal, even, smooth, *shining, yellow*. **Gills** adnate, decurrent with a tooth, somewhat distant, *light yellow-pallid*, then flesh-colour, edge quite entire, of the same colour.

The minute squamules on the pileus give it the appearance of being blown upon with soot. Very much allied to *A. asprellus*.

Among *Equisetum*. Scarborough. Sept.

Name—*formosus*, finely formed, handsome. *Fr. Monogr.* i. *p.* 289. *Hym.* Leptonia.
Eur. p. 204. A. suavis *Lasch n.* 285 (var. stem becoming azure-blue). *C. Illust. Pl.* 488.

464. A. chloropolius Fr.—**Pileus** 2.5 cent. (1 in.) broad, *livid, black-squamulose in the centre*, membranaceous, convex then flattened (margin at first inflexed), striate. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, fistulose, slightly firm, rigid, smooth, *bluish-grey-green*. **Gills** adnate, 4 mm. (2 lin.) broad, whitish, edge of the same colour.

Allied to *A. asprellus*, from which it differs only in the colour, which, however, is constant.

In grassy places. Cabalva, 1879. Oct.

Spores irregularly 6-angled, 12–14 × 6–8 mk. *B.*; polygonal, 12 mk. *Q.* Name—χλωρός, pale green; πολιός, grey. *Fr. Monogr.* ii. *p.* 297. *Hym. Eur. p.* 205. *C. Illust. Pl.* 337.

***** *Gills grey or glaucous, &c.*

465. A. asprellus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, hygrophanous, at first *fuliginous* or mouse-colour, *then livid-grey*, somewhat membranaceous, convex then flattened, *the darker umbilicus villous* at length *squamulose*, marked with spots, *striate*, sometimes (the disc excepted) smooth, sometimes fibrillose. **Stem** 2.5–5 cent. (1–2 in.) long, scarcely 2 mm. (1 lin.) thick, cartilaginous, fistulose, thin, equal, tense and straight, *even, smooth*, typically livid, white-villous at the base. **Gills** adnate, separating-free, somewhat distant, plane, *equally attenuated from the stem towards the margin*, whitish-grey, the edge, which is quite entire, of the same colour.

The stem varies fuscous, green, and azure-blue. In some larger specimens the pileus is squamulose throughout.

In open pastures and grassy places. Uncommon.

Name—*asper*, rough. From the roughish pileus. *Fr. Monogr.* i. *p.* 289. *Hym. Eur. p.* 205. *Berk. Out. p.* 147. *C. Hbk. n.* 280. *S. Mycol. Scot. n.* 262. *Quel. p.* 89. *t.* 6. *f.* 4.

466. A. nefrens Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, hygrophanous, fuliginous then livid-grey, membranaceous, campanulate then flattened, striate, *obsoletely fibrillose*, with a *deep darker umbilicus* and at length *infundibuliform*. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, fistulose, fragile, equal, *smooth*, somewhat naked, *fuscous-livid*. **Gills** adnexed, separating, broad, pallid grey, the *edge slightly black* but entire.

Pileus somewhat undulated. Certainly nearest to *A. serrulatus* in affinity. It approaches *A. serrulatus* as *A. asprellus* approaches *A. chalybæus*.

Leptonia. In grassy places. Ascot.

Name—*ne*, not; *frendo*, to bite. From the edge of the gills being without teeth. Contrasted with *A. serrulatus*. *Fr. Monogr.* i. *p.* 290. *Hym. Eur. p.* 205. *B. & Br. n.* 1759. *Krombh. t.* 2. *f.* 22?

Nolanea. *Subgenus XVI.* **NOLANEA** (*nola*, a little bell). Fr. Syst. Myc. i. p. 204. Rosy-spored. *Stem fistulose*, the tube more rarely stuffed with a pith, *cartilaginous*. Pileus somewhat membranaceous, *campanulate*, somewhat papillate, striate and sometimes even, sometimes also clothed with flocci, *margin straight and at the first pressed to the stem*, and not involute. Gills free or adfixed and not decurrent. *Fr. Hym. Eur. p.* 206.

XVII. Agaricus (*Nolanea*) *pascuus*. One-third natural size.

Nolanea agrees with *Leptonia* and *Eccilia* among the pink-spored species. It corresponds with *Mycena*, *Galera*, and *Psathyra*. Several *Entolomata* are nearly allied. The species are thin and slender, commonly inodorous and fragile, though some of them are tough. Growing on the ground in summer and autumn.

* *Gills grey or fuscous.* Pileus dark-coloured, hygrophanous.
** *Gills becoming yellow, or rufescent.*
*** *Gills shining white then rosy.* Hygrophanous.
**** *Gills whitish.* Pileus not hygrophanous.

* *Gills grey or fuscous, &c.*

467. A. pascuus Pers.—**Pileus** from scarcely 2.5 to 7.5 cent. (1–3 in.) broad, *fuliginous* when moist, hoary or becoming pale fawn when dry, membranaceous, somewhat acute, conical then expanded, but not flattened, commonly umbonate, smooth, *striate* when moist, *even, silky-shining when dry*. **Stem** commonly 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick (sometimes compressed), fistulose, *soft*, equal, *silky-fibrous* or when more fully grown fibrillose, *striate*, commonly pallid fuliginous. **Gills** very much attenuated behind, almost free, thin, *crowded*, ventricose or rather broader and obtuse towards the margin, grey or whitish-fuliginous, sprinkled but not coloured with the rosy spores.

Nolanea.

Very protean and changeable. Always watery (moist) and *very fragile*, inodorous, of a dirty colour, nearest to *A. sericeus*. Easily distinguished from others by its *fibrous* although slender and rigid *stem*. Colour various: fuliginous, fuscous, livid-isabelline, pallid-brick, &c. Among numerous forms the following is to be noted, frequent in moist pine woods in summer: pileus commonly obtuse, striate, *brick-colour* then becoming pale; stem long, slender, 7.5–10 cent. (3–4 in.), tense and straight, longitudinally fibrillose; gills almost adnate, linear, narrow, ascending, crowded, pallid.

In pastures and open woods. Common. May–Nov.

Stem splitting into fibres. Spores irregular, angled, 7–11 mk. *K.*; with 4 or 5 blunt angles, 8–12 mk. *B.*; 6 × 10 mk. *W.G.S.* Name—*pascuus*, of pasture. *Pers. Comm. in Schæff. t.* 229 (not Syn.) *Fr. Monogr.* i. *p.* 292. *Hym. Eur. p.* 206. *Berk. Out. p.* 147. *C. Hbk. n.* 281. *Illust. Pl.* 376. *S. Mycol. Scot. n.* 263. *Buxb. C.* 4. *t.* 21. *f.* 1. *Batt. t.* 25. *E.—Bolt. t.* 35.

468. A. Babingtonii Blox.—**Pileus** scarcely 12 mm. (½ in.) broad, cinereous, shining like silk, adorned with dark-brown subfasciculate fibres, which are free at one end, conico-campanulate; disc subsquamulose, margin straight. **Stem** about 2.5 cent. (1 in.) long, not 2 mm. (1 lin.) thick, equal, fistulose, clothed with dark-brown down, substrigose. **Gills** adnate, ventricose, distant, cinereous, darker at the base.

Gills glittering with little points, (the white antheridia). The form of the spores is peculiar, resembling that of some *Eunotia*, oblong, ventricose on the outer side, rather irregular, sometimes with a distinct septum.

In wood. Rare. Oct.–Nov.

Name—after C. C. Babington. *Blox.—B. & Br. n.* 680. *Pl.* xv. *f.* 1, 903*. *Berk. Out. p.* 148. *C. Hbk. n.* 284. *Illust. Pl.* 377. *a. Fr. Hym. Eur. p.* 207.

469. A. mammosus Linn.—**Pileus** umber or fuliginous when moist, isabelline-silky when dry, hygrophanous, membranaceous, conico-campanulate, *papillate*, rarely obtuse, striate, smooth. **Stem** commonly 7.5 cent. (3 in.) long, scarcely 2 mm. (1 lin.) thick, rigid, *fistulose*, remarkably cartilaginous, tense and straight, slightly thickened and *white-mealy at the apex*, otherwise polished, even, very smooth, fuliginous-livid. **Gills** adnexed, separating-free, ventricose, not crowded, but only slightly distant, grey, then hoary-rose-colour.

Odour peculiar. At first sight it resembles *A. sericeus*, with which it was joined by Bulliard (*t.* 526), but it is remarkably different. Often in company with *Hygrophorus conicus*. It varies in woods with the stem compressed and the gills pure rose-colour.

On lawns. Coed Coch, 1872, &c. Sept.

Spores irregular, angled, globose, 7–10 mk. *K.*; mostly 5-angled, 12–14 × 8 mk. *B.* Name—*mamma*, a breast. From its shape, and being papillate. *Linn.—Fr. Monogr.* i. *p.* 293. *Hym. Eur. p.* 207. *Icon. t.* 98. *f.* 4 (thinner form). *B. & Br. n.* 1343. *C. Illust. Pl.* 377. *b. S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 22. *Batsch f.* 5. *Bull. t.* 526 (under *A. sericeus*).

Nolanea.

470. A. junceus Fr.—**Pileus** not 2.5 cent. (1 in.) broad, fuliginous when fresh, livid when dry, hygrophanous, wholly membranaceous, conical then campanulate, very obtuse or *umbilicate* and somewhat squamulose *at the disc, striate.* **Stem** 7.5 cent. (3 in.) long, not 2 mm. (1 lin.) thick, cartilaginous, fistulose, *slender*, equal, round or compressed, even, *smooth, fuscous*, then livid-fuscous. **Gills** ascending, adnexed, separating, somewhat distant, oblong, grey.

Pileus becoming black and shining when scorched by the sun. Fragile, inodorous; stature that of *A. filopes*. It varies in a singular manner with the pileus papillato-cuspidate.

In wood. Caernarvonshire. Oct.

Spores pretty regularly 6-angled, often with one larger angle, 10–12 mk. *B.* Name—*juncus*, a rush. Growing in rushy marshes. *Fr. Monogr.* i. *p.* 294. *Hym. Eur. p.* 207. *Icon. t.* 99. *f.* 2. *B. & Br. n.* 1116. *C. Hbk. n.* 285.

471. A. fulvo-strigosus B. & Br.—**Pileus** 18 mm. (¾ in.) broad, 12 mm. (½ in.) high, grey, conical, slightly wrinkled. **Stem** 5 cent. (2 in.) long, about 2 mm. (1 lin.) thick, furfuraceo-squamulose, clothed at the base with rigid red hairs, and tinted with the same colour above. **Gills** adnate, grey.

The peculiar character of the strigæ separates this from all other species.

On the ground in wood. East Farleigh, 1876. Sept.

Spores 13×9 mk. *B. & Br.* Name—*fulvus*, tawny; *strigosus*, strigose. From the peculiar strigose stem. *B. & Br. n.* 1650.

*** Gills becoming yellow, or rufescent.*

472. A. pisciodorus Ces.—**Pileus** 1–4 cent. (½–1½ in.) long, *tawny-cinnamon*, somewhat membranaceous, conical then campanulate, then convex, obsoletely umbonate, *velvety-soft.* **Stem** 5–6 cent. (2–2½ in.) long, 4–6 mm. (2–3 lin.) thick, somewhat fistulose, tough, very thinly pruinate, *chestnut-brown then becoming black*, paler at the apex, somewhat velvety. **Gills** slightly adnexed, pale yellowish then flesh colour, at length slightly tawny.

Smell of rotten fish.

Among decayed leaves, &c. Frequent. Oct.

I have failed to detect any difference between this and *A. cucumis*. On examining many specimens of *A. cucumis*, growing together, so that they were under exactly similar conditions of soil, &c., I found the spores shading from brown to pink. The odour changed from being fishy at first to that of cucumber as the plant dried. The colour, moreover, varied. Name—*piscis*, fish; *odor*, smell. *Cesati in Crypt. Ital.* i. *p.* 61. *t.* 3. *f.* 2. *Fr. Hym. Eur. p.* 208. *S. Mycol. Scot. Supp. Scot. Nat.* vol. vi. *p.* 214. *C. Illust. Pl.* 378. *a.*

473. A. rufo-carneus Berk.—**Pileus** 2.5 cent. (1 in.) broad, red- Nolanea.
brown, somewhat membranaceous, hemispherical, umbilicate, indistinctly fibrilloso-squamulose, margin striate. **Stem** 6 cent. (2½ in.) long, 2 mm. (1 lin.) thick, fistulose, incurved at the base where it is slightly thickened, pale rufous, nearly white above, smooth, under a lens minutely fibrillose. **Gills** adnate, ventricose, attenuated behind, slightly connected and traversed by veins, rose-colour.

Taste rather bitter. Spores elliptic.

On grassy heaths. Frequent. Sept.

Name—*rufus*, reddish; *caro*, flesh. *Berk. Eng. Fl.* v. *p.* 82. *Out. p.* 148. *C. Hbk. n.* 282. *Illust. Pl.* 378. *b. S. Mycol. Scot. n.* 264. *Fr. Hym. Eur. p.* 208. *Grevillea, t.* 77. *f.* 2.

474. A. icterinus Fr.—**Pileus** 1–2.5 cent. (½–1 in.) and more broad, *light yellow-green*, more rarely yellowish-honey-colour, becoming pale when dry, hygrophanous, somewhat membranaceous, slightly firm, campanulate soon convex, even wholly reflexed, but never umbilicate, pellucid-striate, smooth, opaque, slightly silky when dry. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, *stuffed, rigid, mealy* sometimes wholly sometimes at the apex, of the same colour as the pileus, but sometimes fuscous. **Gills** adnexed, separating, ventricose, *distant*, pallid, saffron-yellow when rotting.

The pileus is sometimes here and there sprinkled with superficial flocci; when luxuriant it is undulated and changeable in form; disc sometimes obtuse, sometimes papillate, often fuscous and here and there fuscous-squamulose. The stem is sometimes compressed and then 6 mm. (3 lin.) broad. In cultivated ground the gills vary free and decurrent, distinct and connected by veins, even crisped and anastomosing.

In woods and gardens. Edensor. Oct.

Spores 10–12×8 mk. *B.* Name—ἴκτερος, jaundice. From its yellowish-green colour. *Fr. Monogr.* i. *p.* 296. *Hym. Eur. p.* 209. *Icon. t.* 99. *f.* 4. *B. & Br. n.* 1415. *C. Illust. Pl.* 338.

**** Gills shining white then rosy.* Hygrophanous.

475. A. piceus Kalchbr.—**Pileus** *pitch-black*, umber when dry, somewhat membranaceous, conical then campanulate, papillate, without striæ, smooth. **Stem** fistulose, somewhat tough, short, even, *delicately pruinose*, of the same colour as the pileus. **Gills** *emarginate*, decurrent with a small tooth, ventricose, somewhat distant, white then flesh-colour.

Odour of cucumber or fishy. Manifestly allied to *A. pisciodorus*, but the stem is only 2.5–5 cent. (1–2 in.) long.

Nolanea. In grassy places. Holm Lacy, 1879.

Plowright has indicated the opinion (*Gard. Chron.* Oct. 14, 1882) that *A. piceus* and *A. nigripes* may be one, and that possibly both may be identical with *A. cucumis* and *A. pisciodorus*. Name—*pix*, pitch. Pitch-black. *Kalchbr. Hung. Fung. t.* 12. *f.* 3. *Fr. Hym. Eur. p.* 209. *C. Illust. Pl.* 379. *a.*

476. A. infula Fr.—**Pileus** 1–4 cent. (½–1½ in.) broad, fawn or fuliginous when damp, isabelline-livid when dry, shining in either state, membranaceous, pliant, conical or campanulate, often repand and irregularly formed when larger, centre at length depressed, smooth, *even*. **Stem** 2.5–7.5 cent. (1–3 in.) long, somewhat fistulose, cartilaginous, *very tough*, striate, polished and quite naked, even, smooth, of the same colour as the pileus, pubescent with the mycelium at the base. **Gills** typically adnexed and separating-free, *thin, narrow, very much crowded, at the first shining white*, then bright rose-colour.

In stature and size it varies much like its allies, but differs remarkably from all of them in its extraordinary toughness, its polished appearance, and in the earliest colour of the gills being of a dazzling whiteness. Sometimes it is very small, with the filiform stem 2.5 cent. (1 in.) long, sometimes larger and firmer (but always comparatively slender) 7.5 cent. (3 in.) It varies in the insertion of the gills. Var. *versiformis*: smaller; pileus 12 mm. (½ in.) broad, umbonate, convex then depressed, then papillate in the centre, slightly but very densely striate, silky-shining when dry, sometimes infundibuliform, the papilla, however, persistent. On burnt ground.

On lawn. Coed Coch, 1878. Oct.

Name—*infula*, a fillet, or ornament. *Fr. Monogr.* i. *p.* 297. *Hym. Eur. p.* 209. *Icon. t.* 100. *f.* 1. *B. & Br. n.* 1760. *Buxb. C.* 4. *t.* 28. *f.* 2.

**** *Gills whitish.* Pileus not hygrophanous.

477. A. verecundus Fr.—**Pileus** watery reddish, but very pallid, not changing colour when dry, somewhat membranaceous, slightly fleshy at the disc, at first somewhat umbonate, then rather obtuse (never depressed), obsoletely pellucid-striate to the middle when damp, but wholly even at the disc, at first sight smooth, but when more closely examined obsoletely silky *towards the flocculose margin*. **Stem** 4–5 cent. (1½–2 in.) long, 2–4 mm. (1–2 lin.) thick, *slightly firm*, somewhat fistulose, cartilaginous, but not very rigid and when crushed splitting into fibrils, *becoming pale, mealy at the apex*. **Gills** *adnate*, separating, rather thick, *distant*, distinct, ventricose, in the form of a segment, 4 mm. (2 lin.) and more broad, ascending-plane, whitish, watery.

Spores reddish. Densely gregarious or growing in troops. Scarcely allied to any.

Among short grass. Aber, 1867, &c. Sept. Nolanea.

Name—*verecundus*, modest. *Fr. Monogr.* i. *p.* 298. *Hym. Eur. p.* 210. *Icon. t.* 99. *f.* 5. *B. & Br. n.* 1228. *C. Illust. Pl.* 340. *a.*

478. A. cœlestinus Fr.—**Pileus** 4 cent. (1½ in.) broad, *dark azure-blue, streaked*, not hygrophanous, campanulate, then convex, obtuse, *the rugged disc darker* or blackish, striate, lax. **Stem** 4 cent. (1½ in.) long, scarcely 2 mm. (1 lin.) thick, somewhat fistulose, attenuated upwards, white pruinate at the apex, otherwise even and smooth, azure-blue-black. **Gills** adnate, ventricose, very broad, hoary-white, edge of the same colour.

Spores slightly rosy. Remarkable. Its colour is the common colour of the *Leptoniæ*, but its stature is wholly that of the *Nolaneæ*.

On wood. Stoke Pogis, 1872. Oct.

Name—*cœlum*, the sky. Azure-colour. *Fr. Monogr.* i. *p.* 298. *Hym. Eur. p.* 210. *Icon. t.* 100. *f.* 2. *B. & Br. n.* 1416. *C. Illust. Pl.* 379. *b.*

479. A. rubidus Berk.—**Pileus** 8 mm. (⅓ in.) broad, white or greyish, at length with a pale ruddy tinge, membranaceous, convex, at length umbilicate, finely silky. **Stem** short, 3–4 mm. (1½–2 lin.) long, thickest above, solid, minutely silky, white or greyish. **Gills** adnate, broad, ventricose, attenuated behind, with frequently a more or less distinct tooth, sometimes somewhat decurrent, whitish then rose-colour.

Smell like that of new flour.

Among grass in a conservatory. Milton, 1836. March.

Spores elliptic, *M.J.B.*; 4×3 mk. *W.G.S.* Name—*rubeo*, to be red. Reddish. *Berk. Out. p.* 148. *Mag. Zool. & Bot.* i. *t.* 2. *f.* 2. *C. Hbk. n.* 283. *Illust. Pl.* 340. *b. Fr. Hym. Eur. p.* 210.

Subgenus XVII. **ECCILIA.** Fr. Syst. Myc. i. p. 207 excluding certain species. Stem *cartilaginous*, tubular (the tube hollow or stuffed), expanded upwards into the *pileus*, which is somewhat membranaceous and at the first *inflexed* at the margin. Gills attenuated behind, truly decurrent (becoming more so when the pileus is depressed, and not separating as those of the species of the former subgenus do). *Fr. Hym. Eur. p.* 211. Eccilia.

Eccilia corresponds with *Omphalia*.

Eccilia.

480. A. Parkensis Fr.—**Pileus** scarcely 2.5 cent. (1 in.) broad, fuscous when moist, blackish when dry, *by no means hygrophanous*, membranaceous, plano-convex, *deeply umbilicate, very smooth* (by no means fibrillose), slightly striate to the middle. **Stem** short, scarcely 2.5 cent. (1 in.) long, not 2 mm. (1 lin.) thick, fistulose, attenuated downwards, smooth, not dotted, *fuscous*. **Gills** decurrent, *crowded*, distinct, linear and almost 2 mm. (1 lin.) broad, whitish then becoming dingy flesh-colour.

XVIII. Agaricus (*Eccilia*) *atropunctus*. One-half natural size.

A very remarkable species, of which it is difficult to indicate the nearest affinity. Easily distinguished from neighbouring species by the pileus not becoming pale with dryness.

In grassy places. Elmhurst, &c.

Spores subsphæroid-angled, irregular, uniguttate, 6–9 mk. *K.*; 7 mk. *W.G.S.* *Fr. Monogr.* i. *p.* 301. *Hym. Eur. p.* 211. *Icon. t.* 100. *f.* 5. *C. Hbk. n.* 287. *Illust. Pl.* 380. *a.*

481. A. carneo-griseus B. & Br.—**Pileus** grey-flesh-colour, umbilicate, striate, delicately dotted, margin slightly glittering with dark particles. **Stem** slender, fibrous-hollow upwards, of the same colour as the pileus, shining, smooth, white-tomentose at the base. **Gills** adnato-decurrent, somewhat undulated, distant, rosy, the irregular margin darker.

Its closest ally is *A. atrides*, from which it differs in the smooth stem, delicate colour, &c. Spores irregular.

Among fir-leaves, &c. Aboyne, &c. Aug.–Sept.

Pileus about 2.5 cent. (1 in.) broad. Stem about 4 cent. (1½ in.) long, flexuous. Name—*caro*, flesh; *griseus*, grey. *B. & Br. n.* 1001. *t.* 13. *f.* 1. *C. Hbk. n.* 286. *Illust. Pl.* 380. *b. S. Mycol. Scot. n.* 265. *Fr. Hym. Eur. p.* 212.

482. A. griseo-rubellus Lasch.—**Pileus** 2.5 cent. (1 in.) or a little more broad, *hygrophanous*, *umber* or fuscous when moist, grey when dry, membranaceous, deeply umbilicate, at first convex at the circumference, then plane, striate. **Stem** 5 cent. (2 in.) long, 2 mm. (1 lin.) thick, fistulose, equal, *smooth*, somewhat naked, of the same colour as the pileus or a little paler. **Gills** slightly decurrent, somewhat distant, grey then flesh-colour.

Specimens have been gathered a little smaller and paler, with the stem 2.5 cent. (1 in.) long and thinner, and the gills whitish then flesh-colour.

On the ground. Sibbertoft. Eccilia.

Spores rather irregular, 5–7 angled, 10–12 × 6–8 mk. *B.* Name—*griseus*, grey; *rubellus*, reddish. *Lasch n.* 566. *Fr. Monogr.* ii. *p.* 298. *Hym. Eur. p.* 212. *B. & Br. n.* 2004.

483. A. atrides Lasch.—**Pileus** black, fuscous, becoming pale, *black streaked*, somewhat membranaceous, plane, deeply umbilicate, striate. **Stem** somewhat fistulose, pallid, *black-dotted upwards*. **Gills** *deeply and truly decurrent*, attenuated behind, somewhat crowded, pallid, the black edge slightly toothed.

It is scarcely to be doubted that it is only a changed state of *A. serrulatus*, to which it is very like, and from which it does not differ except in its paler colour (stem always pallid), its somewhat streaked (not squamulose), deeply umbilicate and striate pileus, and its gills which are almost whitish and very much attenuated behind.

On the ground. Hereford.

Not the plant figured by Quelet. *B. & Br.* Name—dark-coloured. *Lasch n.* 560. *Fr. Hym. Eur. p.* 212. *Monogr.* i. *p.* 300. *B. & Br. n.* 1858.

484. A. atro-punctus Pers.—**Pileus** *pale-cinereous*, somewhat fleshy, soft, hemispherical. **Stem** somewhat tough, pallid, shining, *with black punctiform squamules*. **Gills** decurrent, arcuate, distant, alternate, cinereous-flesh-colour.

Gregarious, small. As *A. atrides* approaches *A. serrulatus*, this seems to approach *A. lappula*.

On the ground. Dinmore, 1882. Oct.

Name—*ater*, black; *punctum*, dot. From the dotted stem. *Pers. Syn. p.* 353. *Fr. Hym. Eur. p.* 212. *C. Illust. Pl.* 343.

485. A. nigrella Pers.—**Pileus** growing blackish, umbilicate, smooth. **Stem** short, glaucous. **Gills** flesh-colour, then somewhat cinereous.

Small, somewhat tufted.

In pastures. Perth.

This appears to be quite distinct from *A. atrides;* the stem is not nigro-punctate above, nor are the gills nigro-denticulate. *B. & Br.* Name—*niger*, black. Blackish. *Pers. Syn.* 463. *B. & Br. n.* 1651. *S. Mycol. Scot. n.* 266.

486. A. rhodocylix Lasch.—**Pileus** 12 mm. (½ in.) broad, somewhat fuscous when moist, grey when dry, hygrophanous, membranaceous, deeply umbilicate or rather *infundibuliform* with the margin reflexed, *remotely striate when moist, flocculose when dry*. **Stem** 2.5 cent. (1 in.) and less long, 12 mm. (½ in.) thick, *stuffed, thickened upwards*, tough, smooth, cinereous. **Gills**

Eccilia. deeply decurrent, *very distant*, broad, few, the alternate ones shorter, *whitish* then flesh-colour.

A very remarkable species. It may be well compared with *A. pyxidatus*, but is smaller. It presents a striking analogy with *A. umbelliferus*, but is readily distinguished by the rosy spores.

On rotten wood, and tops of walls. Lincoln, 1860, &c. Sept.

Spores ovoid, pentangular, spotted, 10 mk. *Q.* Name—ῥόδον, rose; κύλιξ, cup. Only applicable if "rose" applies to the spores, and "cup" to the pileus. *Lasch n.* 567. *Fr. Monogr.* i. *p.* 301. *Icon. t.* 100. *f.* 6. *B. & Br. n.* 904. *C. Hbk. n.* 288. *Illust. Pl.* 343.

Claudopus. *Subgenus XVIII.* **CLAUDOPUS** (*claudus*, lame; πούς, a foot). Worth. Smith in Seem. Journ. Pileus excentric, lateral or resupinate. Spores rubiginous, in *A. byssisedus* at least angular.

XIX. Agaricus (*Claudopus*) *variabilis.* Natural size.

A small group intermediate between the Hyporhodii and the Dermini. The spores of *A. euosmus* and *sapidus* are *pale lilac*, quite different from the *rubiginous* spores of the Claudopodes. Besides, these species have no affinity with the true Claudopodes, but a very close one with the Leucospori, so that *A. euosmus* was first taken for a variety of *A. ostreatus*. To none of their finders did it occur to separate these species from the Leucospori and place them among the Crepidoti or the Hyporhodii. Moreover, lilac spores never occur among the Hyporhodii, but among the Pratelli. *Fr. Hym. Eur. p.* 213.

487. A. variabilis Pers.—**Pileus** *white*, slightly fleshy, resupinate then reflexed, even, *tomentose*, putting forth from the centre a short, incurved, villous **stem**, which is obliterated when the pileus is reflexed. **Gills** at first concurrent in an excentric point, then reaching the base, *broad*, *distant*, *whitish then rubiginous*.

Here and there it occurs sterile, with white gills.

On sticks, stumps, leaves, &c. Common. May–Nov.

Spores elliptic, rusty-pink. *M. J.B.;* 6×3 mk. *W.G.S.;* ellipsoid, 9–14×5–8 mk. *K.;* 6–7×2–3 mk. *B.* Name—*variabilis*, variable. *Pers. Obs.* 2. *t.*

5. *f.* 12. *Fr. Hym. Eur. p.* 213. *Monogr.* i. *p.* 401. *Berk. Out. p.* 164. *t.* 10. *f.* 1. *C. Hbk. n.* 272. *Illust. Pl.* 344. *a. S. Mycol. Scot. n.* 267. *Hussey* i. *t.* 50. *Hoffm. Anal. t.* 22. *f.* 3. A. sessilis *Bull. t.* 152. *Fl. Dan. t.* 1556. A. niveus *Sow. t.* 97. Claudopus.

488. A. depluens Batsch.—**Pileus** as much as 2.5 cent. (1 in.) broad, *rufescent-hoary*, somewhat membranaceous, resupinate then reflexed, changeable in form, *somewhat silky;* at first with a villous **stem** then stemless. **Gills** scarcely decurrent, diverging, *broad*, ventricose, somewhat crowded, *grey then rufescent.*

Spores almost rose-colour. After the type of *A. variabilis* it is resupinate then reflexed, with a stem, which is manifest and villous in younger specimens, and then *vanishing*, but much more changeable in form, sometimes entire with a central and vertical stem, so that scarcely any form is constant. It is easily distinguished, however, by its thin, *watery, fragile substance*, by the *rufescent-hoary* colour (very hygrophanous), and by the pileus being so delicately silky that it appears rather smooth, most manifestly white-villous at the base however, with the margin slightly striate in moist specimens.

On the ground among moss, in hothouses, &c. Rare. Oct.

Name—*depluo*, to rain. From its watery substance. *Batsch f.* 122. *Fr. Monogr.* i. *p.* 401. *Hym. Eur. p.* 214. *Berk. Out. p.* 165. *C. Hbk. n.* 273. *Illust. Pl.* 344. *b. Hoffm. Anal. t.* 15. *f.* 2. A. epigæus *Pers.* perhaps distinct and a species of Crepidotus. *B. & Br. n.* 1849.

489. A. byssisedus Pers.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *grey*, *becoming pale when dry*, slightly fleshy, at length *horizontal, reniform*, plane, even, villous; flesh, which is of the same colour, thin. **Stem** *incurved*, *villous*, *attenuated upwards*, 12 mm. (½ in.) long, *zoned at the base with white cottony fibrils.* **Gills** *adnato-decurrent*, ventricose, rather broad, *whitish-cinereous*, then *rubiginous* with the spores.

When young *resupinate.* The stem is more distinct and persistent than in *A. depluens*, &c.

On bare soil. Rare. Sept.

Fries found it on rotten beech wood. Spores irregular, angulato-stellate, 7 mk. *B. & Br.;* 11×7 mk. *W.G.S.;* irregular, 6-angled, 8–10 × 5–6 mk. *B.* Name—*byssus*, fine linen thread; *sedeo*, to sit. From the cottony fibrils at the base of the stem. *Pers. Ic. descr. t.* 14. *f.* 4. *Fr. Monogr.* i. *p.* 402. *Hym. Eur. p.* 214. *B. & Br. n.* 686. *Berk. Out. p.* 165. *C. Hbk. n.* 274. *Illust. Pl.* 344. *c.* A. striatulus griseus *Pers. Obs.* 2. *t.* 5. *f.* 8, 9.

SERIES III. **DERMINI** (δέρμα, a skin or membrane). Spores somewhat ferruginous, clay-coloured however in most of the Hebelomata, fuscous-ferruginous in the Phæoti, yellow in the Sapinei.

Among Dermini there are no species answering to Amanitæ, unless perhaps *A. caperatus*. The Pluteoli exactly resemble Plutei; therefore these are placed next to Galeræ as a distinct group. *Fr. Hym. Eur. p.* 214.

The colour of the spores is more variable in this series than in the others. There are no species contained in it with the hymenophore distinct from the stem.

Pholiota.

Subgenus XIX. **PHOLIOTA** (φολίς, a scale). Fr. Syst. Myc. i. p. 240. Partial veil in the form of a ring. This subgenus passes into Flammula without distinct limits. *Fr. Hym. Eur. p.* 214.

XX. Agaricus (*Pholiota*) *squarrosus*. One-fourth natural size.

Pholiota is analogous with *Armillaria* and *Stropharia*. Care must be taken to distinguish some of the species from *Cortinarii*, the distinguishing feature being the arachnoid veil of the latter. Most of the *Pholiotæ* grow on trunks. None are to be commended as edible.

A. Humigeni (*humus*, ground; *gigno*, to bear). *Growing on the ground, not adnate to mosses*, rarely cæspitose.

* Eudermini (εὖ, well; and *Dermini*), *spores ferruginous.*

** Phæoti (φαιός, dusky), *spores fuscous-ferruginous.*

B. Truncigeni (*truncus*, a trunk; *gigno*, to bear). Growing on wood or epiphytal, most frequently cæspitose.

* Ægeritini (*A. ægerita*). *Pileus naked not scaly, but here and there rimoso-rivulose; gills pallid then rufescent or becoming fuscous.*

** Squamosi (*squama*, a scale). *Pileus scaly, gills changing colour.* Pileus not hygrophanous.

† *Gills pallid then becoming fuscous, olivaceous, clay-coloured not purely ferruginous.*

†† *Gills yellow then purely ferruginous or tawny.* Not hygrophanous. Compare *A. marginatus.*

*** Hygrophani. *Gills cinnamon* (not at first light yellow).

C. Muscigeni (*muscus*, moss; *gigno*, to bear). *Like ringed Galeræ, hygrophanous.*

A. HUMIGENI. *On the ground, &c.*, rarely cæspitose.

* Eudermini. *Spores ferruginous.*

490. A. aureus Matt. *Wholly golden-tawny.*—**Pileus** tawny or inclining to ochraceous, when expanded as broad as the palm

of the hand, fleshy, but not compact, convex, obtuse, soft, at first *velvety*, then torn into innate hairy squamules; flesh comparatively thin, soft, white becoming yellow. **Stem** as much as 20 cent. (8 in.) long, 12 mm. (½ in.) thick, solid, somewhat equal, *even*, smooth, becoming pale, but sprinkled towards the ring with a separating *ferruginous scurf*, naked above the ring, but flocculose at the apex. Ring distant from the pileus about 2.5 cent. (1 in.), properly inferior, but appearing to be medial, at first erect, then spreading, sometimes small, often however wide, laciniate, externally flocculose and ferruginous-furfuraceous, internally even, golden-tawny. **Gills** adnexed then free, attenuated at both ends, ventricose, crowded, connected by veins, pallid ferruginous. Pholiota

Very handsome, variable. The ring varies radiato-striate and veined. The pallid mycelium sometimes glues the soil together at the base into a large ball with the appearance of a bulb. Shedding very copious spores, making the ring and apex of the stem pulverulent.

On the ground. Dumfries Fungus Show. Sept.

In the only British specimens I did not observe anything of the ball formed by the mycelium and soil, but the stem itself was somewhat thickened at the base, where several were united. The whole plant was larger than described by Fries. Name—*aurum*, gold. Golden. *Mattusch. Sil. p.* 351. *Fr. Monogr.* i. *p.* 303. *Hym. Eur. p.* 214. *Icon. t.* 101. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 22. *C. Illust. Pl.* 346. Var. Herefordensis *C. Illust. Pl.* 347.

Var. Vahlii Schum.—**Pileus** even, smooth. **Gills** somewhat free.

This differs chiefly in the smoothness of the pileus. The British specimens agree exactly with the figure in 'Flora Danica.' Rare. Dunkeld. Moncreiffe. *Fl. Dan. t.* 1496. *Fr. Monogr.* i. *p.* 303. *Hym. Eur. p.* 214. *B. & Br. n.* 1652. *S. Mycol. Scot. n.* 268.

491. A. caperatus Pers.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, more or less intensely yellow, fleshy, but thin in proportion to its size and robust stem, ovate then expanded, obtuse, viscid only when moist and not truly so, even at the disc, lacunoso-wrinkled at the sides, *incrusted with white superficial flocci*. **Stem** 10–15 cent. (4–6 in.) long, more than 2.5 cent. (1 in.) thick, solid, stout, cylindrical with exception of the base which is often tuberous, shining white, *squamulose above the ring, which is membranaceous, reflexo-pendulous, and broken into squamules at the apex*. **Gills** adnate, crowded, thin, somewhat serrated, *clay*-cinnamon.

When young the pileus is incrusted with the veil or with white mealy-floccose villous down, which is crowded on the even disc and squamulose towards the thin lacunoso-sulcate margin; and as this separates the pileus is naked. Veil universal, floccoso-mealy, at the first cohering in the form of a volva but not continuous; in rainy weather remaining in the form of a volva at the base. Spores dark ferruginous on a white ground, paler on a black ground. There

Pholiota. is a smaller form (*A. macropus* Pers.) in pine woods, pileus even and paler; stem 7.5 cent. (3 in.) long, and without a tuberous base; ring oblique and often incomplete.

In woods. Uncommon. Sept.–Oct.

Spores 10 mk. *B. & Br.*; 12×4 mk. *W.P.*; sphæroid-ellipsoid, uniguttate, 11–12×8–9 mk. *K.* Name—*capero*, to wrinkle. From the wrinkled pileus. *Pers. Syn. p.* 273. *Hym. Eur. p.* 215. *S. Mycol. Scot. n.* 269. *C. Illust. Pl.* 348. *Fl. Dan. t.* 1675. *Krombh. t.* 73. *f.* 10–12. *Gonn. & Rab.* iv. *t.* 5. Cortinarius *Fr. Monogr.* ii. *p.* 3. *Berk. Out. p.* 183. *C. Hbk. n.* 486. Var. macropus *B. & Br. n.* 1939*.

492. A. terrigenus Fr.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, *dingy yellow*, fleshy, moderately *compact*, convex or on account of the involute margin lens-shaped, then at length flattened, obtuse, by no means viscid, adpressedly *silky* with *fibrils*, and fibrilloso-scaly towards the margin; flesh yellow. **Stem** 5 cent. (2 in.) long, 6–12 mm. (3–6 lin.) thick, fleshy fibrous, stuffed, then also hollow, equal (at least not thickened at the base), becoming dingy yellow, *squarrose in the form of small ferruginous warts* and fibrillose. The veil forming a continuous web from the involute margin of the pileus to the stem, then disrupted, remaining partly annular on the stem and partly appendiculate on the margin of the pileus. **Gills** *wholly adnate* and decurrent with a tooth, not sinuate, scarcely crowded, about 4 mm. (2 lin.) broad, pallid light yellow then olivaceous-ferruginous.

The colour of the pileus varies rufescent. Veil fugacious in old specimens. Warts similar to those of the stem, easily separating, occur towards the margin of the pileus. There are smaller forms with the veil obliterated which may be easily mistaken for *Cortinarii*, as *C. venatus* and *C. depexus*.

On old earthy stumps. Kenmore, 1877, &c. Aug.–Nov.

Name—*terra*, earth; *gigno*, to bear. Growing on the ground. *Fr. Monogr.* i. *p.* 304. *Hym. Eur. p.* 215. *Icon. t.* 103. *B. & Br. n.* 1652. *S. Mycol. Scot. n.* 270. *C. Illust. Pl.* 349. *Kalchbr. Hung. t.* 14. *f.* 1.

493. A. erebius Fr.—**Pileus** 5 cent. (2 in.) broad, *lurid* or becoming ferruginous-lurid when moist, becoming pale (ochraceous-clay) when dry, slightly fleshy, convex then flattened, *smooth*, *almost viscid*, hygrophanous, *striate at the margin* when dry. **Stem** 5 cent. (2 in.) long, 6 mm. (3 lin.) thick, hollow, equal, smooth but somewhat striate, becoming pale. *Ring superior* (apical), *campanulate*, sulcate, white. **Gills** adnate, somewhat distant, pallid then dingy cinnamon.

Many of the stems often cohering at the base, where they are squamulose. Pileus often slightly wrinkled. Gregarious, fragile.

In woods, chiefly under beech. Uncommon. Aug.–Oct.

Name—Ἐρεβος, dark or gloomy looking. From the lurid colour. *Fr.*

Monogr. i. *p.* 306. *Hym. Eur. p.* 216. *Sv. Bot. t.* 584. *B. & Br. n.* 1860. *S. Mycol. Scot. n.* 271. *C. Illust. Pl.* 358. A. denigratus *Fr. Hym. Eur. p.* 45, &c. A. Leveillianus *Doz. & Molk. Berk. Out. p.* 152. A. jecorinus *B. & Br. n.* 328. Pholiota.

494. A. ombrophilus Fr. *Wholly pale ferruginous* when damp.—**Pileus** 7.5 cent. (3 in.) broad, clay colour when dry, fleshy, convex then plane, *gibbous*, here and there repand, *even*, smooth, almost viscid, very hygrophanous, *striate at the margin when moist;* flesh thin, soft, white when dry. **Stem** 7.5 cent. (3 in.) long, 6 mm. (3 lin.) and more thick, *hollow*, somewhat fragile, equal, obsoletely fibrillose or slightly striate, pallid. Ring *distant, entire*, reflexed, membranaceous, white. **Gills** adfixed, but *ventricose*, at length *separating*, almost free, crowded, pallid, then watery ferruginous.

Gregarious, growing in troops after copious rain. There are two forms a) typical : b) *brunneolus* (figured in 'Icones') smaller, pileus obtuse, brown ; gills narrower.

On the ground. Coed Coch, &c.

Spores 8 × 4 mk. *W.P.* Name—ὄμβρος, rain ; φίλος, loving. *Fr. Hym. Eur. p.* 216. *Icon. t.* 103. *B. & Br. n.* 1861. *C. Illust. Pl.* 359. A. togularis *Fr. Monogr.* i. *p.* 306.

495. A. togularis Bull.—**Pileus** 4 cent. (1½ in.) broad, *pallid ochraceous*, fleshy, soft, campanulate then expanded, obtuse, orbicular, *without striæ*, smooth ; flesh thin, soft, becoming yellow. **Stem** 7.5–10 cent. (3–4 in.) long, 4 mm. (2 lin.) thick, fistulose, rigid, equal, cylindrical, fibrilloso-strigose, naked and becoming yellow at the apex, becoming fuscous downwards. Ring medial, more than 2.5 cent. (1 in.) distant, entire, spreading-reflexed. **Gills** adnato-separating, ventricose, crowded, narrowed in front, becoming yellow, at length pallid ferruginous, never becoming fuscous.

Protean, slender, very variable in stature, growing in troops. B. More slender, but densely gregarious, with the wholly pallid smooth stem thinner, often flexuous. This form is exactly *A. mesodactylus* Berk. C. Very small. Pileus 2.5 cent. (1 in.) Stem 2.5 cent. (1 in.) or little more, scarcely 2 mm. (1 lin.) thick, very flexuous, becoming ferruginous.

In grassy places. Rare. May–Oct.

Name—*togula*, a little cloak. From the ample reflexed ring hanging like a little cloak. *Bull. t.* 595. *f.* 2. *Fr. Hym. Eur. p.* 216. *Icon. t.* 104, var. *S. Mycol. Scot. n.* 272. *C. Illust. Pl.* 350. A. Arrhenii *Fr. Monogr.* i. *p.* 307. A. mesodactylus *B. & Br. n.* 681. *t.* 9. *f.* 1.

** Phæoti. *Spores fuscous-ferruginous.*

496. A. durus Bolt.—**Pileus** 7.5 cent. (3 in.) and more broad, tawny, tan colour, becoming fuscous, fleshy, *somewhat compact*,

Pholiota. convexo-plane, obtuse, smooth, *then cracked into patches*, margin even. **Stem** commonly curt, 5 cent. (2 in.) long, about 12 mm. (½ in.) thick, *stuffed*, even solid, hard, becoming silky-even, then longitudinally cracked when dry, thickened at the *apex*, *mealy* and more than usually widened into the pileus, varying ventricose and irregularly shaped. *Ring torn.* **Gills** *adnate*, striato-decurrent with a tooth, ventricose, 12 mm. (½ in.) broad, *livid then fuscous-ferruginous.*

The stem is abundantly furnished with fibrillose rootlets at the base. Although very closely allied to *A. præcox*, it is readily distinguished by its ferruginous or brown-ferruginous spores.

In garden ground. Uncommon. Spring and Autumn.

Spores 9 × 5 mk. *W.G.S.* Name—*durus*, hard. From its compact nature. *Bolt. t.* 67. *f.* 1. *Fr. Monogr.* i. *p.* 304. *Hym. Eur. p.* 216. *Berk. Out. p.* 149. *C. Hbk. n.* 289. *Illust. Pl.* 423. *S. Mycol. Scot. n.* 273. *Quel. t.* 7. *f.* 8. A. obturatus *Krombh. t.* 28. *f.* 14–22.

497. A. præcox Pers.—**Pileus** about 7.5 cent. (3 in.) broad, whitish then tan colour, fleshy, soft, convex, soon plane, obtuse, even, smooth, moist but not viscous in rainy weather, *becoming pale;* flesh soft, white. **Stem** 7.5–10 cent. (3–4 in.) long, 6–8 mm. (3–4 lin.) thick, *stuffed*, hollow upwards, equal, even, fragile, at first mealy with white flocci, then somewhat naked, white, white floccose at the base. Ring entire, reflexed, white. **Gills** *rounded-adnexed*, quaternate, 4 mm. (2 lin.) broad, crowded, whitish, then becoming fuscous.

Spores *brown inclining to fuscous.* There is a var. much smaller by waysides: pileus 2.5–4 cent. (1–1½ in.) broad; stem 2.5–4 cent. (1–1½ in.) long, 2–4 mm. (1–2 lin.) thick, stuffed with a soft pith; ring fugacious or only appendiculate.

In pastures, waysides, &c. Common. Spring–Autumn.

Ring striate above. Paler than *A. durus*, but it is very doubtful whether it is really distinct. *M.J.B.* Spores sphæroid-ellipsoid, 8–13 × 5–7 mk. *K.*; 8 × 6 mk. *W.G.S.* Name—*præcox*, early. *Pers. Syn. p.* 420. *Fr. Monogr.* i. *p.* 305. *Hym. Eur. p.* 217. *Berk. Out. p.* 149. *t.* 8. *f.* 1. *C. Hbk. n.* 290. *Illust. Pl.* 360. *S. Mycol. Scot. n.* 274. *Letell. t.* 608. *Krombh. t.* 55. *f.* 11–16. A. candicans *Schæff. t.* 217. Var. minor, *Batt. t.* 20. *C.*

B. Truncigeni. On wood, &c., most frequently cæspitose.

* Ægeritini. *Pileus naked not scaly, &c.*

498. A. radicosus Bull.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, somewhat clay-coloured, then spotted-rufous, fleshy, convexo-plane, regular, *naked* and even, somewhat dry; flesh moderately thick, whitish. **Stem** 7.5–10 cent. (3–4 in.) long, 12 mm. (½ in.)

thick, solid, firm, but spongy within, white, *thickened at the base* Pholiota.
and fusiform-rooted; concentrically scaly below the distant, rather erect, entire ring, the scales erect, floccose; mealy-pruinate at the apex. **Gills** rounded behind, *somewhat free*, very crowded, 6 mm. (3 lin.) broad, pallid, then together with the spores rufescent-ferruginous.

The pileus becomes spotted-rufous with the shed ferruginous spores. Smell strong, sweetish, pleasant; taste peculiar. Solitary or gregarious, not cæspitose.

In woods about stumps. Frequent. Aug.–Oct.

Smell like that of prussic acid. *M. J. B.* Berkeley notes that the gills are more adnate than free. Spores 8×4 mk. *W. G. S.* Name—*radix*, root. From its rooting stem. *Bull. t.* 160. *Fr. Monogr.* i. *p.* 308. *Hym. Eur. p.* 218. *Berk. Out. p.* 150. *C. Hbk. n.* 291. *Illust. Pl.* 361. *S. Mycol. Scot. n.* 275. *Krombh. t.* 62. *f.* 6–10.

499. A. pudicus Bull.—**Pileus** fleshy, convexo-expanded, obtuse, *even*, *dry*, *smooth*. **Stem** solid, somewhat equal, even, the spreading ring persistent. **Gills** rounded-adnate, ventricose, *whitish then* tawny.

Single or cæspitose, rather large, stem often excentric and incurved at the base. According to the figure of Bulliard the disc is sprinkled with white pruina.

On elder-trunks, &c. Uncommon. June.

White or slightly tawny. Pileus 5–10 cent. (2–4 in.) broad. Stem thick; cuticle sometimes cracked. Spores 6×8 mk. *W. G. S.* Name — *pudicus*, modest. A. albus *Bull. t.* 597. *f.* 2. *R. S. Letell. t.* 664. B. fulvellus *Bull. t.* 597. *f. L. O. Fr. Hym. Eur. p.* 218. *Berk. Out. p.* 150. *C. Hbk. n.* 292. *Illust. Pl.* 362. *S. Mycol. Scot. n.* 276. *Hussey* ii. *t.* 31. *Batt. t.* 8. *A.*

500. A. leochromus Cke.—**Pileus** 5–7.5 cent. (2–3 in.) broad, bright tawny, paler (whitish) at the margin, fleshy, convexo-plane, at length depressed, soft, smooth, not shining, generally rivulose from the cracking of the cuticle. **Stem** 7.5–10 cent. (3–4 in.) long, slender, solid, fibrous, internally amber-brown at the base, externally paler, white above, nearly equal, smooth, shining. Ring persistent, tawny. **Gills** rounded, adnate, slightly ventricose, pallid then cinnamon.

Cæspitose. Spores profuse. Allied to *A. pudicus* and *A. capistratus*, but differing in habit and structure from both. Esculent.

On elm-stumps. Highgate, 1862. July.

It approaches the tawny variety of *A. pudicus*, *Fr.* Name—λέων, a lion; χρῶμα, colour. *Cooke in Seem. Journ. Bot.* 1863. *t.* 3. *f.* 3. *Hbk. n.* 293. *Illust. Pl.* 363. *B. & Br. n.* 1002. *Fr. Hym. Eur. p.* 218.

Pholiota.

501. A. capistratus Cke.—**Pileus** 5–7.5 cent. (2–3 in.) broad, livid, tawny, rather viscid when moist, whitish when dry, fleshy, convex, margin involute and slightly striate. **Stem** 7.5–10 cent. (3–4 in.) long, thick, stuffed, nearly equal, subsquamulose. Ring large and entire, spreading and persistent. **Gills** decurrent, crowded, rather fleshy, pallid, growing darker.

Subcæspitose. Taste rather unpleasant. Distinguished from *A. pudicus*, &c., by its decurrent gills, its more robust habit, and the folding in of the margin of the pileus. Said to be edible.

On old stumps, elm, &c. Highgate, 1862. Aug.

Spores of the same size and colour as those of *A. leochromus*, *W.G.S.* Name—*capistrum*, a halter. From the ring. *Cooke Seem. Journ. Bot.* 1863. *t.* 3. *f.* 4. *Hbk. n.* 294. *Pl.* 1. *f.* 1. *Illust. Pl.* 364. *B. & Br. n.* 1003. *Fr. Hym. Eur. p.* 218.

502. A. ægerita Fr.—**Pileus** tawny, becoming pale-white towards the margin, fleshy, convex then plane, *rivulose*, slightly wrinkled; flesh white. **Stem** stuffed, equal, *white-silky*, fibrillose, *the superior ring swollen*. **Gills** adnate, decurrent with a small tooth, crowded, pallid then *fuscous*.

Odour pleasant. Cæspitose.

On dead ash. King's Lynn. July.

Name—αἴγειρος, the black poplar. From its being first found on black poplar. *Fr. Hym. Eur. p.* 219. *Brigant. t.* 32, 33. *f.* 1–4. *Batt. t.* 6. *E. C. Illust. Pl.* 453.

503. A. luxurians Fr.—**Pileus** yellowish-white, then rufous-fuscous, fleshy, convexo-gibbous, then flattened, unequal, *silky*, then squamulose. **Stem** stuffed, rigid, somewhat squamulose, white then becoming fuscous; *ring apical*, torn, fugacious. **Gills** adnexed then *decurrent*, crowded, grey-flesh-colour then becoming fuscous.

Cæspitose, very irregular; flesh white.

On oak and elm. King's Lynn.

Spores 8–10 × 3–4 mk. *W.P.* Name—*luxurio*, to be luxuriant. *Fr. Hym. Eur. p.* 219. Polymyces *Batt. t.* 23. *B.* Hypophyllum sericeum *Paul. t.* 146. A. ægerita *C. Illust. Pl.* 365.

** Squamosi. *Pileus scaly, gills changing colour, &c.*

† *Gills pallid then becoming fuscous, olivaceous, &c.*

504. A. comosus Fr.—**Pileus** 7.5 cent. (3 in.) broad, tawny, *sprinkled with paler, superficial, separating scales, fleshy*, convex

then flattened, obtuse, *viscous;* flesh compact, white. **Stem** solid, when young very compact, hard, and somewhat bulbous, then elongated, somewhat equal, fibrillose (*not scaly*), white. Ring more or less in the form of a cortina, floccose, moderately persistent. **Gills** adnato-decurrent, not much crowded, quite entire, *white then becoming fuscous-clay-colour.* Pholiota.

Stem, which occurs at length also hollow, more or less curved from situation. Inodorous. Scarcely cæspitose though often a few individuals are joined at the base. It is readily distinguished from all its allies by the paler superficial scales on the pileus, and from neighbouring species by the *fuscous ferruginous* colour of the *spores.*

On trunks of beech. Rare.

Name—*coma*, hair. From the nature of the scales on the pileus. *Fr. Monogr.* i. *p.* 310. *Hym. Eur. p.* 220. *C. Hbk. n.* 296. *Kalchbr. Ic. t.* 13. *f.* 1. A. villosus *Bolt. t.* 42?

505. A. heteroclitus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) then 10–12.5 cent. (4–5 in.) broad, whitish or yellow, tawny when old, fleshy, compact and when young hard, most frequently excentric, hemispherical then flattened, very obtuse, sometimes even; commonly broken up into broad, *scattered, innate, adpressed, spot-like* (darker) *scales*, sometimes viscid when old and wet; flesh thick, firm, pallid. **Stem** curt, about 5 cent. (2 in.), thickened-bulbous and bluntly-rooting at the base, 1–2.5 cent. (½–1 in.) thick, solid, *hard*, stout, fibrillose, white, commonly curved-ascending, veiled at the apex, internally rhubarb-coloured at the base. **Gills** rounded behind, slightly adnexed, very broad, plane, crowded, at first pallid, at length dirty ferruginous.

Disc plano-truncate. The veil is more rarely in the form of a perfect ring at the very apex of the stem, commonly appendiculate on the pileus or in the form of a cortina, floccoso-radiate, but always encircling the stem with an annular zone. Solitary. Most distinct from its strong pungent odour, almost that of horse-radish.

On trunks of poplar and birch. Bromley, &c.

Spores sphæroid-ellipsoid, 8–10 × 5–6 mk. *K.* Name—ἕτερος, one of two; κλίνω, to lean. Leaning to one side, or excentric. *Fr. Monogr.* i. *p.* 309. *Hym. Eur. p.* 220. *B. & Br. n.* 1230. *C. Hbk. n.* 295. *Illust. Pl.* 366. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 23. *Hoffm. Ic. anal. t.* 14. *f.* 2. A. aurivellus *Fl. Bor. t.* 386.

506. A. aurivellus Batsch.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, yellow or ferruginous-yellow, fleshy, campanulate then convex, compact at the disc and hence gibbous when expanded, moist, scarcely viscous, *with darker adpressed spot-like scales*, when young sprinkled with floccose scales towards the margin; flesh both of pileus and stem white, at length becoming yellow. **Stem** about 7.5 cent. (3 in.) long, 12 mm. (½ in.) and more thick,

Pholiota. stuffed, somewhat rooted, somewhat equal, at least not attenuated towards the base, but here and there thickened, commonly curved, clothed with adpressed, floccoso-fibrillose, fuscous-ferruginous scales, at length somewhat naked, fibrillose, becoming yellow. Ring silky from the inflexed margin of the pileus, not far distant on the stem, somewhat membranaceous. **Gills** *sinuato-adnexed*, broad, crowded, *at first whitish*, then straw-coloured, at length ferruginous-date-brown or somewhat fuscous, never however inclining to olivaceous.

Odour scarcely remarkable. Not densely cæspitose, and often solitary. Spores ferruginous. Most distinct alike from *A. heteroclitus* and from *A. squarrosus*; very much allied to *A. adiposus*.

On old trunks. Uncommon. Sept.–Nov.

Very beautiful. More refined in appearance than any of its allies. Spores ellipsoid or subellipsoid, 8–9 × 4–5 mk. *K.* Name—*aurum*, gold; *vellus*, fleece. From the scales. *Batsch f.* 115, also 114. *Fr. Monogr.* i. *p.* 311. *Hym. Eur. p.* 220. *Berk. Out. p.* 150. *C. Hbk. n.* 298. *Illust. Pl.* 351. *Saund. & Sm. t.* 9. B. salicinus, darker. *Schum.—Fl. Dan. t.* 2074.

507. A. squarrosus Müll.—**Pileus** 7.5–12.5 cent. (3–5 in.) broad, saffron-ferruginous, squarrose with *innate, crowded, revolute, darker* (becoming fuscous), persistent *scales*, fleshy, campanulato-convex then flattened, commonly obtusely umbonate or gibbous, dry; flesh light-yellow, compact when young, sometimes thin. **Stems** curt when young, as much as 20 cent. (8 in.) long when full grown, as much as 2.5 cent. (1 in.) thick at the apex, remarkably attenuated downwards, stuffed, squarrose as far as the ring with crowded, revolute, darker scales. Ring only slightly distant from the apex, rarely membranaceous, entire or oftener laciniate, generally floccoso-radiate, of the same colour as the scales. **Gills** adnate with a decurrent tooth, crowded, narrow, *pallid-olivaceous* then ferruginous.

Spores ferruginous. Very cæspitose, forming large heaps. Stems commonly cohering at the base, varying very much in stature in the same cluster; varying also much thinner, scarcely ever curved-ascending. Odour heavy, stinking; sometimes, however, obsolete.

About roots of trees, chiefly ash. Common. July–Dec.

Spores ellipsoid, 7–8 × 4–5 mk. *K.*; 4 × 5 mk. *W.G.S.* Name—*squarrosus*, rough. *Müll.—Fr. Monogr.* i. *p.* 310. *Hym. Eur. p.* 221. *Berk. Out. p.* 150. *C. Hbk. n.* 297. *Illust. Pl.* 267. *S. Mycol. Scot. n.* 277. *Hussey* i. *t.* 8. A. squamosus *Bull. t.* 266. A. floccosus *Schæff. t.* 61. *Sow. t.* 284. *Grev. t.* 2.

* **A. Mülleri** Fr.—**Pileus** obtuse, moist, *pallid, with darker adpressed scales*. **Gills** becoming fuscous. **Stem** equal, ring entire. Agreeing in smell with the common form. On beech.

Name—after O. F. Müller. *Fr. Monogr.* i. *p.* 311. *Hym. Eur. p.* 221. *Fl. Dan. t.* 831. *Batsch f.* 114. *Saund. & Sm. t.* 18. *f.* 1. *C. Illust. Pl.* 471. Pholiota.

* **A. verruculosus** Lasch.—**Pileus** compact, obtuse, yellow, with crowded cinnamon scales and *papillæ*. **Stem** villous-scaly.

Remarkable, perhaps to be regarded as a distinct species. On trunks of maple. King's Cliffe. Name—*verruca*, a wart. With small warts. *Lasch n.* 353. *B. & Br. n.* 1939.

508. A. subsquarrosus Fr.—**Pileus** 5 cent. (2 in.) and more broad, *brown-ferruginous*, with darker, *adpressed*, floccose *scales*, fleshy, convex, obtuse or gibbous, viscid. **Stem** 7.5 cent. (3 in.) long, 8–10 mm. (4–5 lin.) thick, stuffed (often hollow when old), equal, yellow-ferruginous, clothed with darker scales which are adpressed, or spreading only at the apex, not squarrose, furnished with an annular zone at the apex, becoming yellow-ferruginous within. **Gills** deeply sinuate, emarginate, *almost free*, arcuate, crowded, at first pale then dingy yellow.

Spores ferruginous. The pileus is viscid, but not glutinous like that of *A. adiposus*. It holds a doubtful place between *A. aurivellus* and *A. squarrosus*, departing from both, however, in the gills being at the first yellow; and from *A. squarrosus*, to which it is more like, in the gills being emarginato-free, not decurrent. Somewhat cæspitose. Almost inodorous.

On a fir-stump and on the ground. Herefordshire, &c. Sept.

Name—*sub*, and *squarrosus*, rough. Roughish. *Fr. Monogr.* ii. *p.* 298. *Hym. Eur. p.* 221. *Icon. t.* 103. *S. Mycol. Scot. Supp. Scot. Nat.* 1882, *p.* 215. *B. & Br. n.* 1862.

†† *Gills yellow then pure ferruginous or tawny.*

509. A. spectabilis Fr.—**Pileus** 5–12.5 cent. (2–5 in.) broad, tawny or golden-yellow then becoming pale, fleshy, compact, hemispherical, obtuse, *dry*, torn into adpressed, innate, pilose squamules of the same colour, continued into the veil at the inflexed margin; flesh *thick, hard, sulphur-yellow*. **Stem** 7.5 cent. (3 in.) and more long, 2.5 cent. (1 in.) thick, *solid*, hard, more or less *ventricose* and *extended into a fusiform root, sheathed with the veil;* sometimes smooth, shining, sometimes squamulose, sulphur-yellow, *mealy above the* inferior, spreading, persistent, even *ring*. **Gills** *adnate*, most frequently with a *small decurrent tooth*, very crowded, *narrow*, at the first *pure yellow*, at length ferruginous.

More or less densely cæspitose, very compact, shining as if varnished in dry weather, although it is by no means viscous. Flesh with a bitter-aromatic taste. A species remote from all others, analogous with *A. aureus*, but perhaps most nearly allied to *A. radicosus*.

On oak-stumps. Frequent. Aug.–Nov.

Pholiota.

Spores 8×6 mk. *W.G.S.* Name—*spectabilis*, of striking appearance. *Fr. Monogr.* i. *p.* 313. *Hym. Eur. p.* 221. *Icon. t.* 102. *B. & Br. n.* 904*. *C. Hbk. n.* 300. *Illust. Pl.* 352. *S. Mycol. Scot. n.* 278. *Hussey* i. *t.* 71. A. aureus *Sow. t.* 77? *Berk. Out. p.* 149. A. rhabarbarinus *Krombh. t.* 3. *f.* 3, not Pers.

510. A. adiposus Fr.—**Pileus** 7.5–17.5 cent. (3–7 in.) broad, *yellow*, fleshy, convex then flattened, somewhat gibbous, *very viscous*, covered with superficial, somewhat concentric, *floccose*, ferruginous *scales*, which are at first adpressed, then squarroso-reflexed, *separating;* flesh whitish, compact at the disc. **Stem** 7.5–15 cent. (3–6 in.) long, 1–2.5 cent. (½–1 in.) thick, solid, *thickened downwards*, compact; when young whitish then light yellow, *viscous*, clothed with *darker* (from the ferruginous spores), *squarroso-reflexed*, separating *scales*. Ring for the most part in the form of a cortina, floccoso-radiate, yellow, at length ferruginous. **Gills** *adnate*, slightly rounded, broad, quite entire, at first *pallid light-yellow*, then ferruginous.

The gluten on the pileus falls in drops in rainy weather, carrying down the scales with it. In dry weather the pileus is shining with the dried gluten. When rightly developed very striking, often of very large size. Commonly forming large clusters.

On beech and ash trunks. Frequent. Oct.

Coloured like a ripe pine-apple, *M.J.B.* Spores 8×5 mk. *W.G.S.* Name—*adeps*, fat. Stout, obese. *Fr. Monogr.* i. *p.* 312. *Hym. Eur. p.* 222. *Berk. Out. p.* 151. *t.* 8. *f.* 2. *C. Hbk. n.* 299. *Illust. Pl.* 353. *Klotzsch in Fl. Bor. t.* 471.

511. A. flammans Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, yellow-tawny, fleshy, convex then plane, somewhat umbonate, *absolutely dry*, sprinkled with *superficial*, *pilose*, somewhat concentric, *paler* or *sulphur-yellow*, *squarrose* or curly *scales;* margin at first inflexed, then repand when larger; flesh thin, *light yellow*. **Stem** 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, stuffed then *hollow*, *equal*, most frequently flexuous, *very light-yellow as are also the crowded squarrose scales*. Ring membranaceous, entire, not far removed from the pileus, of the same colour. **Gills** *adnate* and without a tooth, somewhat thin, crowded, at the first *bright sulphur-yellow*, at length ferruginous, edge quite entire.

Pileus by no means hygrophanous. It is distinguished from all others by the *sulphur-yellow scales on the tawny pileus*. Forming small clusters. Inodorous. The ring is sometimes only indicated by an annular zone.

In woods, chiefly Scotch fir. Frequent. July–Oct.

Spores ellipsoid, 4×2 mk. *K.;* ellipsoid, 3-4×2-2½, *C.B.P.;* 4×2 mk. *W.P.* Name—*flamma*, flame. From its bright colour. *Fr. Monogr.* i. *p.* 315. *Hym. Eur. p.* 222. *Icon. t.* 104. *Berk. Out. p.* 151. *C. Hbk. n.* 301. *Illust. Pl.* 368. *S. Mycol. Scot. n.* 279.

512. A. Junonius Fr.—**Pileus** 5 cent. (2 in.) broad, yellow, fleshy, firm, convexo-plane, obtuse, *dry, even, smooth;* flesh compact, pallid. **Stem** 4–5 cent. (1½–2 in.) long, 6–8 mm. (3–4 lin.) thick, *solid,* equal, firm, incurved, often excentric, even (not scaly), mealy above the ring, yellow. Ring inferior, reflexed, entire. **Gills** *adnate,* crowded, comparatively *broad,* plane, yellow, at length becoming ferruginous. Pholiota.

Spores ferruginous. Solitary. It must be carefully distinguished from a somewhat ringed form of *A. hybridus.*

On trunks. Highgate. Oct.

Spores 7×4, *W.G.S.* Name—after Juno. Beautiful. *Fr. Monogr.* i. *p.* 315. *Hym. Eur. p.* 223. *Sv. Bot. t.* 584. *B. & Br. n.* 1231. *C. Hbk. n.* 302. *Illust. Pl.* 369. *Saund. & Sm. t.* 18. *f.* 3–6.

513. A. tuberculosus Schæff.—**Pileus** 2–4 mm. (1–2 lin.) broad, tawny-yellow, *compactly fleshy,* convexo-plane, obtuse, sometimes depressed, *very dry,* properly smooth, but *broken up into innate, broad, adpressed scales;* flesh becoming yellow, not very thick. **Stem** curt, scarcely exceeding 2.5 cent. (1 in.), 4–6 mm. (2–3 lin.) thick, but 12 mm. (½ in.) and more *at the bulbous base, hollow,* incurved, *fibrillose,* somewhat scaly, often excentric, of a bright light yellow. Ring somewhat membranaceous, reflexed, falling off. **Gills** *emarginate,* crowded, broad, plane, light yellow then tawny or spotted-ferruginous, *edge serrulated.*

Spores ochrey-ferruginous. Solitary. When the ring falls off it may be easily taken for *Flammula.* Allied to *A. curvipes.*

On sawdust. Coed Coch, 1879. Oct.

The typical form is erumpent from the bark chiefly of birch. Spores 7×4 mk. *W.P.* Name—*tuber,* a swelling. With small protuberances. *Schæff. t.* 79 (a form departing from the type). *Fr. Monogr.* i. *p.* 316. *Hym. Eur. p.* 223. *Icon. t.* 104. *B. & Br. n.* 1863. *C. Illust. Pl.* 370. a.

514. A. curvipes Fr.—**Pileus** 4–5 cent. (1½–2 in.) broad, tawny yellow or orange, fleshy, *thin,* but slightly firm and tough, convex then expanded, obtuse, *wholly innato-flocculose, then torn into minute scales,* dry, not hygrophanous. **Stem** 2.5–4 cent. (1–1½ in.) long, 2 mm. (1 lin.) or a little more thick, *fistulose, equal,* incurved, tough, *fibrillose* or delicately squamulose, light yellow. Ring rarely manifest, commonly *floccoso-radiate,* soon vanishing. **Gills** *adnate,* crowded, 4–6 mm. (2–3 lin.) broad, light yellowish, *pallid at the sides,* at length tawny, *edge white, at length floccoso-crenate.*

Pileus well formed. Stem sometimes attenuated downwards. Spores slightly tawny. Gregarious, somewhat cæspitose, very changeable. From the evanescent ring it may be easily taken for *Flammula.*

Pholiota. On sawdust and fallen trunks. Coed Coch, 1879. Oct.

Name—*curva*, curve; *pes*, foot. With curved stem. *Fr. Monogr.* i. *p.* 316. *Hym. Eur. p.* 223. *Icon. t.* 104. *f.* 3. *B. & Br. n.* 1864. *C. Illust. Pl.* 370. b. A. muricatus b. *Syst. Myc.* i. *p.* 244—*Batt. t.* 22. *A.* (with the elongated stem somewhat naked).

*** Hygrophani. *Gills cinnamon, &c.*

515. **A. dissimulans** B. & Br.—**Pileus** about 2.5 cent. (1 in.) broad, at first lurid, at length becoming pale or whitish, campanulate, very obtuse, scarcely slightly viscid, hygrophanous, at length flattened, involute at the margin. **Stem** fistulose with transverse dissepiments, thickened downwards, shining white, cottony at the base. Ring erect, for the most part persistent. **Gills** sinuato-adnate, at length decurrent, pallid, clay-colour.

Pileus at first of the colour of *A. erebius*.

On sticks of hawthorn and sloe. Hothorpe, 1881.

Name—*dissimulo*, to dissemble. From its appearing like *A. erebius*. *B. & Br. n.* 1940. *C. Illust. Pl.* 371.

516. **A. Cookei** Fr.—**Pileus** 5 cent. (2 in.) broad, dirty pale-yellowish, fleshy, conical then convex, viscid when moist, sprinkled with darker adpressed scales. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, solid, equal, fibrillose, rufous brown below. Ring very tender. **Gills** adnate, slightly ventricose, at length brown.

Nearest to *A. subluteus* Fl. Dan.

In damp places among grass. Dinmore, &c. Oct.

Name—after M. C. Cooke. *Fr. in litt. Grevillea, vol.* v. *p.* 56. *t.* 82. *f.* 1. *C. Illust. Pl.* 354.

517. **A. subluteus** Fl. Dan.—**Pileus** yellow, fleshy, thin, flattened, umbonate, squamulose, margin striate when moist. **Stem** *stuffed, smooth, yellow*, thickened at the base, ring spreading. **Gills** decurrent, crowded, cinnamon.

Somewhat cæspitose, 7.5 cent. (3 in.) The scales on the pileus are darker.

On grassy ground. Faldonside, 1884. Oct.

The habit is peculiar, but the colour of the specimens was paler than described by Fries. The stem was long (10–12.5 cent., 4–5 in.), comparatively thin, and somewhat irregularly flexuous. Name—*sub*, and *luteus*, yellow. Yellowish. *Fl. Dan. t.* 1192. *Fr. Hym. Eur. p.* 224. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 23.

518. **A. confragosus** Fr.—**Pileus** about 4 cent. (1½ in.) broad, brick-red or cinnamon-rufous when moist, tawny when dry, *hygro-*

phanous, slightly fleshy, convexo-plane, very obtuse, *densely floccu-* Pholiota.
loso-furfuraceous on the surface, margin striate when moist, without striæ when dry. **Stem** when young 2.5 cent. (1 in.) long, 4 mm. (2 lin.) thick, *fistulose*, equal, flexuous or incurved, wholly pale-ferruginous, not of a different colour at the base. Veil *sheathed-fibrillose on the stem; towards the apex* of the stem terminating in a membranaceous, persistent, spreading, and at length reflexed, even ring; *above the ring* the stem is striate, but *naked*, not mealy. **Gills** adnate, scarcely decurrent, very thin and crowded, linear, 2 mm. (1 lin.) broad, rufous or cinnamon-rufous; edge under a lens unequal, crenulated.

Somewhat cæspitose, fragile. The floccoso-furfuraceous covering of the pileus is such as is not observed in any other species. When the plant is old the stem is longer, but slender, and, as well as the even pileus, denuded, and the ring collapsed. More allied to *A. conspersus* and *A. furfuraceus* than to *A. mutabilis*, &c., but most distinguished. A variety of *A. mutabilis* with squamulose pileus is not to be compared with this.

On old fallen elm. Coed Coch, 1866.

Spores oblong, ferruginous, 9×37 mk. *B. & Br.*; 12×5 mk. *W.P.* Name *—confragosus*, broken, rough, uneven. *Fr. Monogr.* i. *p.* 318. *Hym. Eur. p.* 224. *Icon. t.* 105. *f.* 2, 3. *B. & Br. n.* 1232.

519. A. mutabilis Schæff.—**Pileus** about 5 cent. (2 in.) broad, cinnamon when moist, becoming pale when dry, hygrophanous, slightly fleshy, convex then flattened, commonly obtusely umbonate, sometimes depressed, even and *smooth*, but when young occasionally squamulose throughout. **Stems** about 5–7.5 cent. (2–3 in.) long, 4 mm. (2 lin.) and more thick, *rigid*, stuffed then hollow, equal or attenuated downwards, *scaly-squarrose as far as the ring*, *ferruginous-blackish* or umber *downwards*, often ascending or twisted. Ring membranaceous, externally squamulose. **Gills** *adnato-decurrent*, crowded, rather broad, pallid then cinnamon.

Densely cæspitose, variable in stature. *Fl. Dan. t.* 2076. *f.* 1, intermediate between this and *A. marginatus*.

On stumps, &c. Common. April–Oct.

Spores ellipsoid-obovate, 7–13×4–6 mk. *K.*; 6×11 mk. *W.G.S.*; 7×4 mk. *W.P.* Name—*mutabilis*, changeable. *Schæff. t.* 9. *Fr. Monogr.* i. *p.* 319. *Hym. Eur. p.* 225. *Sverig. ält. Svamp. t.* 47. *Berk. Out. p.* 151. *t.* 8. *f.* 3. *C. Hbk. n.* 303. *Illust. Pl.* 355. *S. Mycol. Scot. n.* 280. *Hussey* ii. *t.* 27. *Lenz. f.* 20. *Krombh. t.* 73. *f.* 7–9 *a*. *Bull. t.* 543. *O.P.R.*

520. A. marginatus Batsch.—**Pileus** 2.5 cent. (1 in.) and more broad, honey-coloured when moist, tan when dry, hygrophanous, slightly fleshy, convex then expanded, obtuse, even, *smooth*, margin

Pholiota. striate. **Stem** about 5 cent. (2 in.) long, 2–4 mm. (1–2 lin.) thick, *fistulose*, equal, *fibrillose* or slightly striate, *not scaly, of the same colour as the pileus*, but becoming fuscous and *commonly white velvety at the base*. Ring 2–4 mm. (1–2 lin.) distant from the apex, often in the form of a cortina and fugacious. **Gills** *adnate*, crowded, thin, *narrow*, at first pallid, then darker cinnamon.

Very much allied to *A. mutabilis*, but constantly different, commonly smaller, solitary or gregarious, more rarely cæspitose; pileus paler, stem less rigid, substance and colour more watery. It varies much, and is deceptive on account of the vanishing veil. In hedges there is a very small cæspitose form with the pileus only 12 mm. (½ in.) broad, and the stem tough and smooth, with exception of the remains of the fugacious cortina. There also occur on the ground among mosses smaller and paler forms, which must be carefully distinguished from *A. unicolor*, &c.

In woods, chiefly pine. Frequent. Sept.–Dec.

Name—*marginatus*, margined. Probably from the striate margin. *Batsch f.* 207. *Fr. Monogr.* i. *p.* 319. *Hym. Eur. p.* 225. *Berk. Out. p.* 151. *C. Hbk. n.* 304. *Illust. Pl.* 372. *S. Mycol. Scot. n.* 281. *Krombh. t.* 73. *f.* 5, 6. — B. A. mutabilis *Batsch f.* 208, smaller, darker (certainly not A. mycenoides).

521. A. mustelinus Fr.—**Pileus** *yellow*, ochraceous, slightly fleshy, campanulate, convex, even, *smooth, dry*. **Stem** fistulose, even, pallid, white-mealy above the superior reflexed ring, *thickened and white-villous at the base*. **Gills** adnate, somewhat distant, *tawny*-cinnamon.

Solitary. There is a larger form; stem 5–7.5 cent. (2–3 in.) long, 4 mm. (2 lin.) thick, striate, pileus 12 mm. (½ in.) broad.

On stumps. Guildford, 1882. Sept.

Name—*mustella*, a weasel. Weasel-coloured. *Fr. Hym. Eur. p.* 225. *C. Illust. Pl.* 356. *Mich. t.* 80. *f.* 6.

522. A. unicolor Fl. Dan.—**Pileus** 6–10 mm. (3–5 lin.) broad, bay-brown then ochraceous, hygrophanous, fleshy, *campanulate then convex*, *somewhat umbonate*, smooth, rather even. **Stem** 4 cent. (1½ in.) long, 2 mm. (1 lin.) thick, *stuffed then fistulose*, equal, even, *somewhat smooth*, of the same colour as the pileus. Ring membranaceous, *entire*, slight, persistent. **Gills** *slightly adnexed, ventricose, broad*, pallid-ochrey.

Pileus at length striate at the margin. Always very small, slender, somewhat gregarious. There is another form, differing in the shorter stem and triangular gills, which are broadly adnate behind, even decurrent with a tooth, although separating.

On trunks, branches, larch, &c. Hereford.

Name—*unicolor*, of one colour. *Fl. Dan. t.* 1071. *j.* 1. *Fr. Monogr.* i. *p.* 320. *Hym. Eur. p.* 225. *B. & Br. n.* 1524. *C. Illust. Pl.* 356. *b. Bull. t.* 530. *f.* 2. Pholiota.

C. Muscigeni. *Like ringed Galeræ, hygrophanous.*

523. A. pumilus Fr.—**Pileus** 6–10 mm. (3–5 lin.) broad, *ochraceous, moderately fleshy* for its very small size, campanulate then *hemispherical*, obtuse, smooth, *even* (not slightly pellucid-striate when moist); flesh thin, watery. **Stem** 2.5–4 cent. (1–1½ in.) long, 2–3 mm. (1–1½ lin.) thick, fistulose, equal, *lax* (not tense and straight), even, *smooth*, of the same colour as the pileus. Ring distinct, *floccoso-woven, in the form of a zone.* **Gills** *wholly adnate*, at first ascending, then plane, 4–6 mm. (2–3 lin.) broad, almost triangular, crowded, stopping short of the slight acute margin, pallid.

The ring in the form of a zone is similar to that of various *Cortinarii*, and is not membranaceous as in allied species. Very distinct from all others. Solitary or gregarious. Of the same colour as *A. hypnorum* but more fleshy.

Among moss on old wall, &c. Uncommon. Aug.–Jan.

The plant may be readily overlooked as a species of *Pholiota* from the nature of the ring. The gills are sometimes scarcely crowded. It stands severe frost. Name—*pumilus*, dwarf, diminutive. *Fr. Monogr.* i. *p.* 321. *Hym. Eur. p.* 226. *Icon. t.* 105. *f.* 4. *Berk. Out. p.* 152. *C. Hbk. n.* 305. *S. Mycol. Scot. Supp. Scot. Nat.* 1882, *p.* 215.

524. A. mycenoides Fr. *Ferruginous when in vigour*, when dry sometimes tawny, sometimes pale.—**Pileus** 12 mm. (½ in.) broad, *membranaceous*, campanulate soon hemispherical, somewhat obtuse, smooth, *striate*, hygrophanous. **Stem** about 4 cent. (1½ in.) long, 1 m. (½ lin.) thick, fistulose, *filiform*, even, smooth, tawny-ferruginous, darker than the pileus. Ring *membranaceous, entire*, white, persistent. **Gills** *adnate*, with a small decurrent tooth, *somewhat distant*, at length plane, ferruginous.

A remarkable species, *somewhat tender*, growing in troops. Stem longer in mossy places. In no wise to be confounded with very small forms of *A. marginatus*, such as *Batsch f.* 208.

In damp dells, and on lawn among moss. Rare. Oct.

Berkeley notes that his plant had a white stem but that Fries considered it the same as his *A. mycenoides*. Spores ovoid-ellipsoid, 8–10 × 5–6 mk. *K.* Name—*Mycena-like. Fr. Monogr.* i. *p.* 321. *Hym. Eur. p.* 226. *Berk. Out. p.* 152. *C. Hbk. n.* 306.

Inocybe.

Subgenus XX. **INOCYBE** (ἴς, fibre; κυβή, head). Fr. Syst. Myc. i. p. 254. Universal veil somewhat fibrillose, concrete with the cuticle of the pileus, often free at the margin, in the form of a cortina. Gills somewhat sinuate (but they occur also adnate and in two species decurrent), changing colour, but not cinnamon-pulverulent. Spores often rough, but in others even, more or less fuscous-ferruginous. *Fr. Hym. Eur. p.* 226.

XXI. Agaricus (Inocybe) lanuginosus. One-fourth natural size.

Inocybe (with *Hebeloma*) corresponds with *Tricholoma*. *Inocybe* and *Hebeloma* have some common features, but they are really very distinct. *Inocybe* is readily distinguished by the *silky-fibrillose covering of the pileus*, which never has a distinct pellicle, by the veil which is continuous and homogeneous with the fibrils of the pileus, and by the ferruginous-fuscous spores. All grow on the ground. They are (mostly) strong-smelling (commonly nauseous). None are edible.

The position of *Inocybe* among Dermini is not satisfactory. It forms a very natural group of itself, and is, in many respects, not properly allied to Dermini. It might form a distinct genus intermediate between the Agarici and the Cortinarii.

I. Squarrosi (squarrose). *Pileus at the first squarrose, somewhat fuscous, and stem scaly of the same colour.*

II. Laceri (torn). *Pileus torn into scales or fibres* (not split into cracks); *stem coloured*, paler than the pileus, *fibrillose.*

III. Rimosi (cracked). *Pileus longitudinally fibrous, soon cracked* and here and there adpressedly scaly; *stem whitish*, slightly tinged with the colour of the pileus, *fibrillose.* Many of them become yellow when old.

IV. Velutini (velvety). *Pileus* not cracked, *the cuticle fibrillose-woven, becoming even or adpressedly scaly, disc even; stem polished, smooth, whitish, mealy at the apex.*

V. Viscidi (viscid). *Pileus becoming even, viscid* (with one exception).

I.—Squarrosi. *Pileus at the first squarrose, &c.*

525. A. hystrix Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, mouse-colour, fleshy, firm, but not compact, convex then flattened, obtuse or slightly gibbous, orbicular, *squarrose* with revolute floc-

cose scales, which are fibrilloso-adpressed towards the margin; flesh white. **Stem** 5–7.5 cent. (2–3 in.) long, 6 mm. (3 lin.) and more thick, *solid*, firm, equal or for the most part *attenuated downwards*, somewhat fusiform, fuscous-mouse-colour, *squarrose* with revolute crowded floccose scales as far as the sharply defined annular zone, above the zone even and pallid. **Gills** adnate, crowded, linear, plane, *at first whitish, then becoming fuscous.* Inocybe.

Stature wholly that of *A. squarrosus*, but the colours are very different, and there is no affinity between them. *A. relicinus*, which is nearest to it, is readily distinguished by the gills being yellow then olivaceous.

In woods. Heywood Forest, Herefordshire. Autumn.

Spores pruniform-cuneiform, 11–14 mk. *Q.*; 10×5 mk. *W.P.* Name—*hystrix*, a porcupine. From the scales. *Fr. Monogr.* i. *p.* 334. *Hym. Eur. p.* 227. *Icon. t.* 106. *f.* 1. *C. Illust. Pl.* 424.

526. A. relicinus Fr.—**Pileus** 12 mm. (½ in.) broad when young, 2.5 cent. (1 in.) and more when expanded, fuliginous, fleshy, thin, conical then expanded, obtuse, everywhere scaly-squarrose with fasciculate down. **Stem** 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, *solid*, *soft*, equal, *floccoso-scaly* (but not squarrose) and fibrillose, fuliginous, paler at the apex. **Gills** adnexed, crowded, at first ascending, *yellow then olivaceous.*

Scarcely any odour. It differs remarkably from all neighbouring species in the *colour of the gills being at first yellow then olivaceous.*

In marshy fir woods among Sphagna. Kinnordy. July–Sept.

Name—*relicinus*, curled backwards. From the scales. *Fr. Monogr.* i. *p.* 335. *Hym. Eur. p.* 227. *Berk. Out. p.* 152. *B. & Br. n.* 1344. *C. Hbk. n.* 316. *S. Mycol. Scot. n.* 282.

527. A. calamistratus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) and more broad, everywhere fuscous and *squarrose-scaly*, slightly fleshy, campanulate, obtuse, margin at first bent inwards, often repand, at length flattened. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, *solid*, *rigid* and tough, equal, somewhat rooting, fuscous, but *dark azure-blue below*, *squarrose* throughout with *rigid recurved scales.* **Gills** adnexed, separating, crowded, broad, white then ferruginous, the remarkably whitish edge somewhat serrated.

It is very easily distinguished from all others *by the azure-blue base of the stem, by the reddish flesh, and by the gills being at length ferruginous.* The edge of the gills is thick. Odour strong, peculiar.

In ditches and waysides in woods. Rare. Aug.–Oct.

Spores 12 mk., smooth, *B. & Br.*; subreniform, 10–11 mk. *Q.* Name—*calamister*, curling-iron. Curled. From the scales. *Fr. Monogr.* i. *p.* 335.

Inocybe. *Hym. Eur. p.* 227. *Icon. t.* 106. *f.* 2. *B. & Br. n.* 1234. *S. Mycol. Scot. n.* 283. *C. Illust. Pl.* 389.

528. A. hirsutus Lasch.—**Pileus** 12 mm. (½ in.) high and when flattened still broader, fuscous, slightly fleshy, conical then campanulate, umbonate, *acute*, *squarrose* with fasciculato-pilose scales, when older inclining to ochrey, fibrillose towards the margin which is hence fringed. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, *solid*, *slender*, but tough, *fibrillose*, floccoso-scaly (not squarrose) at the apex, somewhat thickened and *dark green at the base*. **Gills** adnexed, ascending, crowded, thin, narrow, pallid then becoming fuscous, the white edge slightly toothed.

It clearly differs from neighbouring species *in the green base of the stem, and in the gills becoming at length fuscous*. The disc of the pileus is sometimes green. Odour much less than that of *A. calamistratus*.

In moist beech woods, &c. Rare. Oct.

Name—*hirsutus*, bristly. *Lasch n.* 577. *Fr. Monogr.* i. *p.* 336. *Hym. Eur. p.* 227. *Grevillea*, *vol.* viii. *p.* 76. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 23.

529. A. lanuginosus Bull.—**Pileus** 2.5 cent. (1 in.) broad, umber, at length becoming yellow, slightly fleshy, campanulato- or hemispherico-convex, obtuse; then more expanded, somewhat umbonate, *floccoso-scaly*, squarrose with scales which are erect and pointed at the disc; flesh of the pileus and of the stem whitish. **Stem** 4–5 cent. (1½–2 in.) long, 2–4 mm. (1–2 lin.) thick, solid, tough, equal, *whitish-fuscous*, *squamuloso-fibrillose* with fuscous down *at the base which is of the same colour*, *white-pulverulent at the apex*. **Gills** separating-free, *ventricose*, broad, crowded, thin, *pallid-clay colour*, edge slightly toothed.

The stem is not squarrose as in *A. calamistratus*, &c. Inodorous, well formed

In mixed woods, near pathways. Uncommon, July–Sept.

Name—*lanuginosus*, woolly, downy. *Bull. t.* 370 (departing in the rufescent gills). *Fr. Hym. Eur. p.* 227. *Berk. Out.* p. 153. *S. Mycol. Scot. n.* 284. *Vaill. Par. t.* 13. *f.* 4-6. A. flocculentus *Poll.* 3. *p.* 288. *Fr. Monogr.* i. *p.* 336. *C. Hbk. n.* 317. Compare *Pers. Ic. t.* 8. *f.* 4.

530. A. dulcamarus A. & S.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *olivaceous-fuscous*, slightly fleshy, campanulate then convex, then expanded and umbonate, *floccoso-scaly*, silky towards the margin; flesh thin, becoming yellow-white. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, *somewhat hollow*, not very rigid, equal, cortinato-fibrillose, and *adpressedly squamulose*, paler than the pileus, *mealy at the apex*. **Gills** arcuato-adfixed, ventricose, crowded, *pallid then olivaceous*.

Gregarious. In the form which appears in summer the scales on the pileus are squarrose, and the gills darker; in that of autumn, the scales are adpressed and the gills paler. *Batt. t.* 18. *A.* Inocybe.

On the ground in mixed wood. Pass of Killiecrankie, 1877. Aug.

Pileus convex, umbonate, umber, clothed with adpressed fibres, the centre breaking up into areolate patches, about 8–12 mm. (⅓–½ in.) across; stem 2.5 cent. (1 in.) or more high, 2 mm. (1 lin.) thick, of the same colour as the pileus, scaly below, tomentose above; gills clay-coloured, ventricose, margin paler, waved, adnate, with a strong decurrent tooth; spores even; flesh white; taste at first pleasant. In one specimen the gills are just as figured by Persoon. Though he gives in his specific characters "*stipite nudo*" the stem is represented in the figure as scaly. *B. & Br.* The above description of the specimens which I submitted to Berkeley was written on account of their departure from the type as figured by Persoon. Name—*dulcis*, sweet; *amarus*, bitter. *Alb. & Schw. n.* 489. *Fr. Monogr.* i. *p.* 337. *Hym. Eur. p.* 228. *B. & Br. n.* 1653. *S. Mycol. Scot. n.* 285. *Brigant t.* 4. *f.* 3. A. uniformis *Pers. Ic. t.* 15. *f.* 1.

531. A. plumosus Bolt.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, mouse-colour, slightly fleshy, somewhat membranaceous at the circumference, convex then plane, more rarely obtusely umbonate, *at the first squarrose with erect fasciculate flocci*, fibrilloso-silky at the margin. **Stem** 5–7.5 cent. (2–3 in.) even 10 cent. (4 in.) long, 2–4 mm. (1–2 lin.) thick, stuffed when young, *then hollow*, equal or attenuated at the base, flexuous, *everywhere floccoso-scaly, fuliginous-mouse-colour*, of the same colour at the base, *naked* (not pruinose) *at the apex*. **Gills** somewhat adnate, scarcely crowded, *narrow*, not very ventricose, *pallid mouse-colour*, the edge which is of the same colour quite entire.

Odour weak, almost pleasant. It is easily distinguished from *A. lacerus* by *the flesh* both of the pileus and stem *never being reddish*.

In moist pine woods. Rare. Aug.

Name—*plumosus*, feathery. From the downy tufts on the pileus. *Bolt. t.* 33. *Fr. Monogr.* i. *p.* 337. *Hym. Eur. p.* 228. *Berk. Out. p.* 153. *C. Hbk. n.* 318. *Illust. Pl.* 425. *A.*

532. A. cincinnatus Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, fuscous, slightly fleshy, convexo-plane, commonly obsoletely umbonate, villous-scaly; flesh white. **Stem** 4 cent. (1½ in.) long, 2 mm. (1 lin.) or a little more thick, *solid*, tough, equal, tense and straight, *fibrilloso-scaly, fuscous-violaceous*. **Gills** adnexed or attenuated behind, separating, ventricose, *crowded, fuscous-violaceous*.

Inodorous, slender, somewhat gregarious. It differs from all others in the colour of the gills.

In beech woods. Coed Coch.

Inocybe. Spores granulated or irregular. *B. & Br.* Name—*cincinnus*, a curl, lock. From the scales. *Fr. Monogr.* i. *p.* 338. *Hym. Eur. p.* 228. *B. & Br. n.* 1654. *C. Illust. Pl.* 425. *B.*

II.—Laceri. *Pileus torn into scales or fibres, &c.*

533. A. pyriodorus Pers.—**Pileus** 5–7.5 cent. (2–3 in.) broad, fuscous then becoming pale-ochraceous, fleshy at the disc, otherwise thin, ovate then *campanulate*, obtuse, very *scaly at the disc*, otherwise everywhere torn into fibrils, margin often bent inwards and repand; flesh *becoming red*. **Stem** 7.5–15 cent. (3–6 in.) long, 1–2.5 cent. (½–1 in.) thick, *solid*, internally fibrous and *soft*, fragile, somewhat equal or attenuated at the base, often curved; *externally very fibrillose*, becoming pale, *white-pulverulent at the apex*, *becoming red internally*. **Gills** at first adnate, then somewhat emarginate, crowded, thin, linear, often crisped, at first whitish, then becoming fuscous, edge whitish.

It has the peculiarity of the flesh proper of the pileus easily separating alike from the stem and from the hymenophore. Pileus reddish when young. *Odour pleasant*, of pear or violet.

In woods and gardens. Uncommon. Sept.–Dec.

Name—*pyrus*, pear; *odor*, smell. *Pers. Syn. p.* 300. *Fr. Monogr.* i. *p.* 338. *Hym. Eur. p.* 228. *Berk. Out. p.* 153. *C. Hbk. n.* 319. *Illust. Pl.* 472. *S. Mycol. Scot. n.* 286. *Bull. t.* 532. *f.* 1, larger form.

534. A. scaber Müll.—**Pileus** becoming pale-fuliginous or pale-tan, variegated with adpressed, *darker* (fuscous) *spot-like fibrous scales*, fleshy, somewhat compact, conical then convex, obsoletely gibbous; flesh firm, *white*, not reddish. **Stem** 4 cent. (1½ in.) long, 6 mm. (3 lin.) and in the larger variety 10 mm. (5 lin.) thick, *solid*, *firm*, equal, white, externally stiff, the cuticle being as if somewhat cartilaginous, but *silky-fibrillose* or even velvety. **Gills** slightly adnexed, thin, crowded, whitish then somewhat fuliginous.

Odour not remarkable. It departs from the rest in its *stature* which is *curt* (like that of *A. sambucinus*) and *robust*.

In mixed woods. Frequent. Sept.–Oct.

Pileus about 4 cent. (1½ in.) broad. Spores pruniform, 13–15 mk. *Q.* Name—*scaber*, rough. *Müll.—Fr. Monogr.* i. *p.* 339. *Hym. Eur. p.* 228. *Berk. Out. p.* 153. *C. Hbk. n.* 320. *Illust. Pl.* 391. *S. Mycol. Scot. n.* 287. *Sow. t.* 207.

535. A. maritimus Fr.—**Pileus** 2.5 cent. (1 in.) broad, fuscous or mouse-colour, becoming hoary when dry, *hygrophanous*, fleshy, somewhat soft, *convex then flattened*, obtuse or umbonate, fibrillose, more or less adpressedly scaly; flesh becoming fuscous-grey.

Stem 2.5 cent. (1 in.) long, 4–6 mm. (2–3 lin.) thick, *solid*, equal, *fibrillose*, at first furnished with a cortina, a little paler than the pileus, *not pulverulent at the apex*. **Gills** rounded-adnexed, somewhat separating, ventricose, fuscous grey *then becoming ferruginous*. Inocybe.

The whole plant is almost of one colour, but is distinguished from the rest by its *hygrophanous pileus*. Odour not remarkable.

On sandy ground in woods. Glamis, 1874, &c. Sept.–Oct.

It is not confined to maritime districts, but is found in the native pine woods in Scotland. Name—*maritimus*, pertaining to the sea. Found originally by the sea-shore. *Fr. Monogr.* i. *p.* 339. *Hym. Eur. p.* 229. *B. & Br. n.* 1525. *S. Mycol. Scot. n.* 288. *C. Illust. Pl.* 392. *Fl. Dan.* 1846. *f.* 1?

536. A. lacerus Fr.—**Pileus** 2.5 cent. (1 in.) broad, mouse-colour, becoming pale, becoming yellow when old, but not hygrophanous, slightly fleshy, *convex then expanded*, obtuse or obtusely umbonate, at first adpressedly fibrillose, then *rimosely scaly* and squarrose. **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, *stuffed*, thin, tough, equal or attenuated at the base, paler than the pileus, everywhere *fuscous-fibrillose*. **Gills** attenuato-adnexed, ventricose, broad, crowded, but almost distant when the pileus is expanded, quite entire, *white-flesh then mouse-colour*.

The pileus is not split longitudinally into cracks as in *A. rimosus*. Commonly gregarious. Odour and taste almost none. It varies very much, but is easily distinguished from species which are somewhat like by the *flesh being reddish, and by the stem never being white-pulverulent at the apex*. There is a more slender variety with hollow stem and narrower gills.

In woods, chiefly on naked soil. Common. July–Oct.

Name—*lacerus*, torn. Torn into scales. *Fr. Monogr.* i. *p.* 339. *Hym. Eur. p.* 229. *Berk. Out. p.* 154. *C. Hbk. n.* 321. *S. Mycol. Scot. n.* 289. *Hoffm. Ic. t.* 12. *f.* 1.

537. A. flocculosus Berk.—**Pileus** 2.5 cent. (1 in.) broad, brownish fawn-colour, somewhat fleshy, convex, somewhat campanulate, umbonate, silky-squamulose, the margin smoother; veil white, fibrillose, fugacious. **Stem** 4 cent. (1½ in.) long, 4 mm. (2 lin.) thick, fibrillose, pale-fawn; beneath the fibrillæ brown, the apex minutely squamuloso-pulverulent. **Gills** arched behind and then adnate but not broadly so, ventricose, at first pale-fawn, at length dull-ferruginous, margin white.

Odour like that of new meal, but nauseous. On naked soil the characters are as described above; among grass the pileus is smoother, more tawny, rimosely silky, and the gills not arcuate behind but broadly adnate. Very nearly allied to *A. lanuginosus* and to *A. lacerus*.

On the naked soil and among grass. Rare. Sept.–Oct.

Inocybe.

Spores irregular, 9 mk., sometimes slightly elongated. *B. & Br.* Name—*floccosus*, floccose. Clothed with small flocci. *Berk. Eng. Fl.* v. *p.* 97. *Out. p.* 154. *B. & Br. n.* 1940*. *C. Hbk. n.* 323. *Illust. Pl.* 393. *Fr. Hym. Eur. p.* 229.

538. A. Bongardii Weinm.—**Pileus** 2.5–5 cent. (1–2 in.) broad, becoming fuscous when moist, becoming pale when dry, fleshy, *campanulate*, obtuse, *scaly on the disc*, torn into fibrils towards the margin, but not cracked; *flesh* thin, *reddish*. **Stem** 5–7.5 cent. (2–3 in.) and more long, 4 mm. (2 lin.) thick, *solid*, *rigid*, equal or with a little bulb at the base, *fibrillose*, *pallid-rufescent*, *reddish silky downwards*, *white-pulverulent at the apex*. Cortina none. **Gills** adnexed, ventricose, broad, not much crowded, *pallid-reddish then cinnamon*.

Odour pleasant, exactly that of pears ("Bergamotte": Weinm.) Solitary. Stature and colour of pileus very variable.

On sandy ground. Culbin sand-hills, Findhorn, &c. May–Aug.

Spores bulging to one side as in *Eunotia*, 12 mk. *B. & Br.* Name—after Bongard. *Weinm. p.* 190. *Fr. Monogr.* i. *p.* 340. *Hym. Eur. p.* 229. *Icon. t.* 107. *f.* 1, 2. *B. & Br. n.* 1417, 1940*. *S. Mycol. Scot. n.* 290. *C. Illust. Pl.* 381. *Kalchb. t.* 20. *f.* 2.

539. A. muticus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, whitish, with fibrils which become fuscous, fleshy, convex then plane, *always very obtuse, and at length somewhat depressed in the centre*, somewhat squamulose, dry. **Stem** 4–5 cent. (1½–2 in.) long, 6–8 mm. (3–4 lin.) thick, *hollow*, conspicuously attenuated downwards, fibrillose, *white-straw-colour* becoming somewhat fuscous. **Gills** wholly adnate, thin, crowded, white then becoming slightly fuscous.

Firm, well formed. It holds a doubtful place between *Laceri* and *Rimosi*.

In shady woods. Coed Coch, 1880.

Spores 6×4 mk. *W.P.* Name—*muticus*, maimed. Meaning not apparent. *Fr. Monogr.* ii. *p.* 346. *Hym. Eur. p.* 230. *Icon. t.* 109. *f.* 1. *B. & Br. n.* 1865. *C. Illust. Pl.* 382.

540. A. carptus Scop.—**Pileus** 2.5 cent. (1 in.) broad, dark fuscous, fleshy, convex then flattened, *depressed*, with woolly filaments. **Stem** *hollow*, *attenuated downwards*, with woolly filaments like the pileus. **Gills** adfixed, ventricose, broad, brown-fuscous.

Everywhere fibrillose. Taste bitterish-sweet.

On naked soil. Coed Coch.

Spores even, *B. & Br.* Name—*carpo*, to pluck or tear. Torn into fila- Inocybe.
ments. *Scop. Carn. p.* 449. *Fr. Hym. Eur. p.* 230. *B. & Br. n.* 1655. *C. Illust. Pl.* 426. A. brunneo-villosus *Fungh. t.* 6. *f.* 5 (short-stemmed).

541. A. deglubens Fr.—**Pileus** 4–5 cent. (1½–2 in.) broad, at first date-brown-rufescent, then becoming yellow, slightly fleshy, *convexo-plane*, obtuse or obtusely umbonate, *adpressedly torn into fibrils* but not cracked, peeling off in darker then separating fibrils; flesh wholly white. **Stem** 4–5 cent. (1½–2 in.) long, *solid*, slender, *adpressedly scaly-fibrillose*, pale but darker and pulverulent with pruina of the same colour at the apex. **Gills** obtusely adnate, ventricose, *somewhat distant*, distinct, *grey then cinnamon*.

Different from all others in the *dark pruina at the apex of the stem.* The stature is that of *A. lacerus.*

In moist woods. Rare. Aug.

Name—*de*, and *glubo*, to peel. From the surface peeling off. *Fr. Monogr.* i. *p.* 340. *Hym. Eur. p.* 230. *B. & Br. n.* 1117. *C. Hbk. n.* 325. *Illust. Pl.* 394. *S. Mycol. Scot. n.* 291.

542. A. obscurus Pers.—**Pileus** azure-blue then becoming fuscous, somewhat fleshy, campanulate then plane, *umbonate*, longitudinally fibrillose, *scaly at the disc;* flesh whitish. **Stem** stuffed, flexuous, fibrillose not scaly, *becoming fuscous-violaceous;* flesh lilac at the apex. **Gills** uncinato-adnexed, crowded, ventricose, olivaceous then brown.

Odour strong, bitterish. Somewhat cæspitose. Polymorphous. In the larger form the pileus is more flattened, 5 cent. (2 in.) broad, umbonate, the stem 3 mm. (1⅛ lin.) thick and the gills paler. In the more slender form the pileus is more convex, only 2.5 cent. (1 in.) broad, the stem 7.5 cent. (3 in.) long, only 2 mm. (1 lin.) thick, and the gills olivaceous then brown.

On naked ground among pine. Rare. July–Nov.

Spores obovate, 10×5 mk. *B. & Br.;* 8×6 mk. *W.G.S.;* pruniform, 10 mk. *Q.* Name—*obscurus*, dark. *Pers. Syn.* 347. *Fr. Hym. Eur. p.* 231. *Monogr.* ii. *p.* 300. *Icon. t.* 107. *f.* 3. *B. & Br. n.* 682. *Berk. Out. p.* 154. *Saund. & Sm. t.* 21, *lower fig. C. Hbk. n.* 322. *Illust. Pl.* 427. *S. Mycol. Scot. n.* 292.

543. A. Rennyi B. & Br. Small.—**Pileus** fawn-coloured, centre brown, hemispherical. **Stem** attenuated downwards, fibrillose.

Spores reniform, suddenly swollen behind, nucleate, 12–18 mk. Hereford. Name—after J. Renny. *B. & Br. n.* 1761.

544. A. hæmactus Berk. & Cke.—**Pileus** about 2.5 cent. (1 in.) broad, umber, margin pallid, fleshy, compact, obtuse, campanulate, floccosely fibrillose, disc subsquamose, darker. **Stem** nearly 5

Inocybe.

cent. (2 in.) long, 6–8 mm. (3–4 lin.) thick, solid, smooth, scarcely fibrillose, whitish above, æruginous at the base, nearly equal. **Gills** adnate, pallid at length clay-colour.

Flesh everywhere turning blood-red when touched or wounded. Pileus clad with long darker fibrils. The æruginous colour at the base of the stem penetrating through the flesh. Spores elliptical, attenuated towards one end, smooth.

On lawn. Credinhill Court, 1882. Oct.

Name—αἱμακτός, stained with blood. Of the flesh. *Grevillea*, *vol.* xi. *p.* 70. *C. Illust. Pl.* 390.

III.—Rimosi. *Pileus longitudinally fibrous, soon cracked, &c.*

545. A. fibrosus Sow. *White.*—**Pileus** fleshy, thin, obtusely campanulate, *silky-even*, at length cracked, margin bent inwards, flexuous. **Stem** *solid*, long, striate, *scaly*-flocculose *at the apex*. **Gills** free, crowded, linear-lanceolate, whitish-pallid.

Pileus as much as 7.5 cent. (3 in.) broad. Stem 7.5–10 cent. (3–4 in.) long, 6–8 mm. (3–4 lin.) thick. Gills about 4 mm. (2 lin.) broad. A remarkable species, taller than the following, stinking, flesh white. It varies with the pileus becoming yellow.

In fir woods. Keynston Wood, Dorset, 1808. July–Sept.

Spores 11×7 mk. *W.G.S.*; pruniform, echinulate, 9 mk. *Q.* Name—*fibra*, fibre. Fibrous. *Sow. t.* 44. *Fr. Hym. Eur. p.* 231. *Berk. Out. p.* 154. *C. Hbk. n.* 326. *Illust. Pl.* 454. *S. Mycol. Scot. n.* 293. A. repandus *Fr. Monogr.* i. *p.* 341, &c.

546. A. phæocephalus Bull.—**Pileus** *bay-brown, fuliginous*, fleshy, conico-campanulate, umbonate, repand, squamulose. **Stem** solid, somewhat bulbous, of the same colour as the pileus above, white below, villous. **Gills** free, arcuate, light yellow then earth-coloured.

A tall robust species.

In mixed wood. Rare. Oct.

Pileus about 7.5 cent. (3 in.) broad. Stem 10 cent. (4 in.) long. Spores bright ferruginous. In 1877 I found perfect specimens which fully confirmed Berkeley's opinion that the species is a true Inocybe. The doubt expressed by Fries is therefore set at rest. Name—φαίος, dusky; κεφαλή, head. *Bull. t.* 555. *f.* 1. *Fr. Hym. Eur. p.* 231. *B. & Br. n.* 1233, 1760. *S. Mycol. Scot. n.* 294. *C. Illust. Pl.* 396.

547. A. fastigiatus Schæff.—**Pileus** *yellow-fuscous*, occasionally fuscous-brown, fleshy, *conical then campanulate*, margin at the first bent inwards, then repand, but varying regular, acute, *longitudinally fibrillose and cracked*, rarely adpressedly scaly;

flesh thin, white, scissile, the texture of the stem lax and soft. Inocybe.
Stem 7.5–10 cent. (3–4 in.) long, 12 mm. (½ in.) and more thick, *solid, stout*, fleshy-fibrous, but not rigid, equal or rather attenuated at both ends, *silky-fibrous* or flocculose, somewhat naked however at the apex, pallid. **Gills** free, *ventricose*, crowded, rather thick, *yellow then olivaceous.*

The gills are conspicuously broader than those of *A. fibrosus*. Stem commonly curved or ascending. Fragile, gregarious, even cæspitose, almost inodorous. Stature exactly that of *Hygrophorus puniceus*. It has been confounded with *A. pyriodorus*. A form has occurred with the stem very ventricose, 4 cent. (1½ in.) thick.

In woods. Uncommon. June–Sept.

Pileus 5 cent. (2 in.) across. Spores rough with little nodules, *M. J. B.* Name—*fastigium*, a gable. Pointed or peaked. *Schæff. t.* 26. *Fr. Monogr.* i. *p.* 342. *Hym. Eur. p.* 231. *Icon. t.* 108. *f.* 1. *Berk. Out. p.* 155. *t.* 8. *f.* 4. *C. Hbk. n.* 327. *Illust. Pl.* 383. *S. Mycol. Scot. n.* 295. *Sterb. t.* 22. *D. E.*

548. A. hiulcus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, fuscous, becoming olive, slightly fleshy, at first conical, then expanded, the more fleshy umbo prominent, everywhere *adpressedly squamuloso-fibrillose*, cracked. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed, slightly firm*, equal (or with a small bulb at the base), *adpressedly fibrillose*, squamuloso-mealy at the apex, becoming pale, *rufescent when touched, and internally* white then *reddish*. **Gills** *somewhat free*, with a decurrent line on the stem, but soon ventricose behind, 4 mm. (2 lin.) broad, thick, *somewhat distant*, at length plane, slightly rigid, *white-flesh colour*, darker at the base, when full grown olivaceous-brown.

The pileus is cracked, but not so incised as in *A. rimosus*, &c. Stem somewhat curved. From the form of the gills there is a channel round the stem. Odour obsolete.

In pine woods. Uncommon. Aug.-Sept.

Name—*hio*, to gape. Opening into furrows. *Fr. Monogr.* i. *p.* 344. *Hym. Eur. p.* 232. *B. & Br. n.* 1118. *C. Hbk. n.* 333. *S. Mycol. Scot. n.* 296. *C. Illust. Pl.* 397. *Kalchb. t.* 20. *f.* 1. *Batt. t.* 18. *C.*

549. A. Curreyi Berk.—**Pileus** convex, expanded, longitudinally fibrous, slightly cracked, not umbonate. **Stem** straight, attenuated upwards, finely fibrillose. **Gills** free, yellowish, then brownish-olive.

Closely resembling *A. fastigiatus*, but by no means umbonate. The stem is dark, and the spores, which are subcymbiform, perfectly even.

In woods. Fineshade, Norths., &c. Aug.

Name—After F. Currey. *Berk. Out. p.* 155. *C. Hbk. n.* 328. *Illust. Pl.* 398. *Fr. Hym. Eur. p.* 232.

Inocybe.

550. A. rimosus Bull.—**Pileus** 2.5–5 cent. (1–2 in.) broad, yellowish, but varying rufescent and date-brown (especially when old), fleshy, at first *conico-campanulate*, obtuse, then more flattened, and at length reflexed, umbonate, *somewhat fibrillose, longitudinally cracked*, disc sometimes even, sometimes cracked in a tesselated manner; flesh firm, *white*. **Stem** 5–7.5 cent. (2–3 in.) long, 6–8 mm. (3–4 lin.) thick, *solid, firm*, longitudinally fibrous within, round, in the best form *thickened* even marginato-bulbous and fibrillose *at the base, mealy upwards*, becoming yellow or fuscous but always pallid. The thin cortina fugacious. **Gills** *very much attenuated behind*, free or slightly adnexed, somewhat ventricose, quaternate, *whitish then becoming fuscous*, and at length becoming ferruginous, edge serrulated, pallid.

Odour earthy. The marginato-bulbous form of stem is probably *Schæff. t.* 258. *f.* 1-3.

In woods and open ground. Common. June–Oct.

Subgregarious. Pileus shining, satiny with adpressed fibrillæ, the inner substance appearing through the cracks of a yellow hue; sometimes the epidermis cracks concentrically, and the lower edge of the cracked portions is reflected so as to present a squarrose appearance. There are several varieties, in some of which the stem is white, in others coloured like the pileus, *M. J. B.* Spores elliptic, ferruginous, *M. J. B.*; ellipsoid or sphæroid-ellipsoid, even, 10–14×5–8 mk. *K.*; 11×7 mk. *W. G. S.* Name—*rima*, a crack. Full of cracks. *Bull. t.* 388. *Fr. Monogr.* i. *p.* 342. *Hym. Eur. p.* 232. *Berk. Eng. Fl.* v. *p.* 97. *Out. p.* 155. *t.* 8. *f.* 5. *C. Hbk. n.* 330. *Illust. Pl.* 384. *S. Mycol. Scot. n.* 297. *Sow. t.* 323. *Grev. t.* 128. *Batsch f.* 107. *Krombh. t.* 44. *f.* 10-12. B. pileus adpressedly scaly. A. morosus *Fungh. t.* 6. *f.* 6.

551. A. asterosporus Quel.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, bistre, with brown striæ, convex, umbonate, cracked. **Stem** stuffed, firm, bulbous, furnished with a separable cuticle, reddish, pubescent, with brown striæ. **Gills** emarginate, ventricose, *thin*, whitish bistre then cinnamon.

Odour mouldy.

On the ground in wood. Dinedor, &c. Aug.–Oct.

Very similar to *A. rimosus*, for a form of which it might be mistaken without examination of the spores. Spores globose, .012 mm., stellate-spinulose, *Q.* Name—*aster*, a star. From the star-shaped spores. *Bull. Soc. Bot. Fr. vol.* xxvi. *p.* 50. *Bull. Soc. Rouen, Pl.* ii. *f.* 6. *Grevillea, vol.* viii. *p.* 76. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 24. *C. Illust. Pl.* 385.

552. A. eutheles B. & Br.—**Pileus** fawn-coloured, expanded, strongly umbonate, somewhat undulated, silky-shining, somewhat squamulose. **Stem** solid, fibrous, somewhat equal, slightly striate, pallid. **Gills** adnate, slightly toothed, pallid, white-margined.

Smell farinaceous, rather disagreeable. It differs from *A. fastigiatus* in the

adnate gills, smooth, not rough, spores; and from *A. Curreyi*, with which it agrees as to the spores, in its strongly umbonate pileus, nearly equal stem, and adnate gills. Inocybe.

On the ground among fir-leaves. Aboyne, 1862, &c. Aug.–Oct.

Spores subelliptic, 7 mk. *B. & Br.*; 8 mk. *W.G.S.*; pruniform, 12 mk. *Q.* Name—εὖ, well; θηλή, a teat. With well-formed teat. From the prominent umbo. *B. & Br. n.* 1004. *t.* 13. *f.* 2. *C. Hbk. n.* 329. *Illust. Pl.* 386. *S. Mycol. Scot. n.* 298. *Fr. Hym. Eur. p.* 232.

553. A. destrictus Fr.—**Pileus** 4–6 cent. (1½–2½ in.) broad, *pallid then rufescent*, fleshy, campanulato-convex then flattened, umbonate and at length depressed round the umbo which becomes fuscous, cracked, fibrillose then torn into scales; flesh *thin, white.* **Stem** 5 cent. (2 in.) rarely more long, 4–6 mm. (2–3 lin.) thick, *solid*, rather soft, somewhat equal, smooth, fibrilloso-striate, *becoming red-whitish*, somewhat mealy at the apex. Cortina thin, fugacious. **Gills** *uncinato-adnate*, crowded, thin, 4 mm. (2 lin.) broad, whitish then grey-cinnamon.

Odour unpleasant. Wholly distinct from *A. rimosus*.

On the ground in pine woods. Coed Coch, 1880, &c. July.

Name—*destringo*, to strip off. Stripped. *Fr. Monogr.* i. *p.* 343. *Hym. Eur. p.* 232. *Icon. t.* 108. *B. & Br. n.* 1866. *C. Illust. Pl.* 387. Under A. rimosus *Bull. t.* 599.

554. A. descissus Fr.—**Pileus** 2.5 cent. (1 in.) broad, whitish or becoming pallid fuscous, slightly fleshy, conical then campanulate, *split into radiate cracks* when expanded, *fragile*, fibrillose, striate at the margin. **Stem** 4 cent. (1½ in.) long, 4 mm. (2 lin.) thick, *hollow* when full grown, *fragile, equal, undulated, somewhat fibrillose, white-pulverulent at the apex*, externally and internally white. **Gills** *somewhat free, crowded*, thin, linear, *pallid, then becoming fuscous* unicolorous.

Stature wholly that of *A. geophyllus*, but thinner, very much allied to *A. rimosus*.

In pine woods. Rare. Nov.

Name—*de*, and *scindo*, to split. From the split surface. *Fr. Monogr.* i. *p.* 343. *Hym. Eur. p.* 233. *B. & Br. n.* 1526. *S. Mycol. Scot. n.* 299. *Batt. t.* 18. *F. C. Illust. Pl.* 428. *A.*

* **A. auricomus** Batsch. Smaller, thinner. — **Pileus** *becoming yellow*, margin striate. **Stem** fistulose. **Gills** adfixed, ventricose, whitish-fuscous. Remarkably cracked. It must be carefully distinguished from the yellowish form of *A. geophyllus*. On burnt soil in woods. Name—*aurum*, gold; *coma*, hair. Golden-haired. From the yellow fibrillæ. *Batsch f.* 21. *Fr. Hym. Eur. p.* 233. *Berk. Out. p.* 155. *C. Hbk. n.* 331.

Inocybe.

555. **A. Trinii** Weinm.—**Pileus** 12 mm. (½ in.) broad, whitish-rufescent, tawny when dry, slightly fleshy, hemispherical, obtuse, longitudinally rufescent-fibrillose, scarcely cracked, not scaly. **Stem** stuffed, equal, slender, *laxly rufous-fibrillose*, white-mealy. **Gills** rounded, ventricose, cinnamon, white-floccose at the edge.

Clove-scented.

In mixed woods. Rare. Ballinluig, 1877. Aug.

Spores strongly granulated, *B. & Br.*; 10×5 mk. *W.P.* Name — after Trin. *Weinm. p.* 194. *Fr. Hym. Eur. p.* 233. *B. & Br. n.* 1656. *S. Mycol. Scot. n.* 300. *C. Illust. Pl.* 428. *B.*

IV.—Velutini. *Pileus* not cracked, *the cuticle fibrillose-woven, &c.*

556. **A. sambucinus** Fr.—**Pileus** 6 cent. (2½ in.) broad, *white* or more rarely becoming pallid-yellow, fleshy, firm, *convex then expanded*, often *repand*, but not bent inwards, obtuse, fibrilloso-*silky and becoming even* (so as at first sight to appear smooth); flesh white. **Stem** 2.5–4 cent. (1–1½ in.) long, 1–2.5 cent. (½–1 in.) thick, *solid, stout*, equal or clavate at the base, often decumbent, *striate, smooth, white*, obsoletely pruinose at the apex. Cortina none. **Gills** slightly adnexed, crowded, ventricose, 4–6 mm. (2–3 lin.) broad, of one colour, *whitish.*

Always solitary, compact, obese, odour stinking. B. Gills at length date-brown.

In pine woods. Perth, &c. Nov.

Name—*sambucus*, elder-tree. Probably first found among elder. *Fr. Monogr.* i. *p.* 344. *Hym. Eur. p.* 234. *Icon. t.* 109. *f.* 2. *S. Mycol. Scot. n.* 301. *C. Illust. Pl.* 399.

557. **A. cæsariatus** Fr.—**Pileus** 4 cent. (1½ in.) broad, tawny-dirty or like a smooth sugared cake, fleshy, convex then expanded, gibbous, repand, *becoming silky-even*, becoming almost smooth at the disc, silky at the margin; flesh thin, white. **Stem** 4 cent. (1½ in.) and more long, 6 mm. (3 lin.) thick, *solid*, unequal, *somewhat twisted*, somewhat thickened at the base, *pruinose* but not fibrillose, *pallid.* **Gills** somewhat adnate, thin, crowded, ventricose, whitish-fuliginous, edge of the same colour.

Gregarious, somewhat cæspitose, slightly firm, with a stinking odour.

Under beech. Coed Coch, 1881. Sept.–Oct.

The description given above from 'Monographia' is, as Fries points out in the letterpress to 'Icones,' that of the typical form. In var. *fibrillosa* the stem is very *ochraceous-fibrillose.* The colours especially of the gills, are variable,

pallid then ochraceous, at length brown. Spores even, 10 mk. *B. & Br.* Inocybe.
Name—*cæsariatus*, covered with hair. From the fibrils. *Fr. Monogr.* i. *p.* 345. *Hym. Eur. p.* 234. *Icon. t.* 109. *f.* 3. *B. & Br. n.* 1941. *C. Illust. Pl.* 388.

558. A. lucifugus Fr.—**Pileus** 2.5 cent. (1 in.) broad, somewhat olivaceous, sometimes becoming pale, rarely fawn-colour, fleshy, but thin, *convex then plane*, umbonate, covered with adpressed squamules or more frequently with longitudinal fibrils; flesh *white*. **Stem** 4 cent. (1½ in.) long, 4 mm. (2 lin.) thick, *solid, rigid*, equal, here and there undulated, scarcely fibrillose, but slightly white-pulverulent at the apex, *pallid*. **Gills** somewhat free, or adnexed as the form of the pileus changes, crowded, ventricose, plane, whitish then soon *yellow, then pure olivaceous*.

Firm, with a strong pleasant odour, somewhat that of radish. Cortina obsolete. Easily distinguished by the colour of the gills. It varies larger, more robust, often irregularly shaped, with the stem unequal, 12 mm. (½ in.) thick, pileus 5–7.5 cent. (2–3 in.) broad, obtuse and very repand, and the gills crisped.

On the ground in woods. Frequent. Sept.

The stem is sometimes streaked with pink. Name—*lux*, light; *fugio*, to flee. Light-shunning. Shade-loving. *Fr. Monogr.* i. *p.* 345. *Hym. Eur. p.* 234. *B. & Br. n.* 792. *C. Hbk. n.* 334. *Illust. Pl.* 429. *A. S. Mycol. Scot. n.* 302. A. dulcamarus *Pers. Ic. pict. t.* 15. *f.* 2. B. Pileus adpressedly scaly, thinner, gills broader. A. albocrenatus *Jungh. t.* 6. *f.* 4.

559. A. sindonius Fr.—**Pileus** *dingy white* or at length becoming yellow, fleshy, somewhat thin, *campanulate then convex*, gibbous, *silky-velvety, becoming even*, appendiculate with fibrils of the cortina when young, dry; flesh white. **Stem** 5–7.5 cent. (2–3 in.) long, 6 mm. (3 lin.) thick, *soft*, stuffed with a *separate pith which disappears*, then *hollow*, equal, at the first slightly fibrillose with the delicate cortina, then becoming smooth, *white*. **Gills** attenuato-adnexed, linear-lanceolate, 2 mm. (1 lin.) broad, *becoming whitish fuscous*.

The pileus is not fibrillose. It appears wholly different from *A. geophyllus* in its hollow stem and stature.

In mixed woods. Rare. Sept.

Name—σινδών, muslin or fine linen. From the veil. *Fr. Monogr.* i. *p.* 346. *Hym. Eur. p.* 234. *Berk. Out. p.* 156. *C. Hbk. n.* 335. *Illust. Pl.* 400. *S. Mycol. Scot. n.* 303. *Batt. t.* 18. *B.—Sow. t.* 365 agrees very well, but is almost twice as large as the plant of Fries.

560. A. Clarkii B. & Br.—**Pileus** 16 mm. (⅔ in.) broad, 2.5 cent. (1 in.) high, white, campanulate, silky. **Stem** 4 cent. (1½ in.) long, 4 mm. (2 lin.) thick, stuffed, somewhat equal, slightly thickened at the base, flocculose. **Gills** adnexed, white-margined.

Inocybe.

Allied to *A. sindonius*.

On the ground. Street, Somerset, 1871. Oct.

Name—after J. A. Clark. *B. & Br. n.* 1345. *C. Illust. Pl.* 429. *B.*

561. A. geophyllus Sow.—**Pileus** 12 mm. (½ in.) and more high and broad, normally *white*, somewhat fleshy, *conical then expanded, umbonate*, dry, *becoming silky-even*, then covered with longitudinal fibrils from the cuticle gaping open; flesh white. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 more rarely 6 mm. (1–2, 3 lin.) thick, *stuffed*, slightly firm, equal, commonly tense and straight, *smooth, white* or tinged with the colour of the pileus *and white-mealy at the apex*. Cortina fibrillose. **Gills** *almost free*, rather broad, ventricose, crowded, *whitish then becoming clay-fuscous, at length earth-coloured.*

XXII. Agaricus (*Inocybe*) *geophyllus.* One-half natural size.

Thinner than *A. sindonius*, *A. lucifugus*, &c., gregarious; odour earthy. The pileus varies in colour, violaceous-lilac (whitish when full grown), becoming fuscous, brick-red, becoming yellow.

On the ground in woods. Common. July–Nov.

The variety *lateritius* is a remarkable one. It is not altogether red but stained persistently, retaining the colour when dry. Jedburgh, &c. Name—γή, earth; φύλλον, a leaf. From the earthy colour of the gills. *Sow. t.* 124. *Fr. Monogr.* i. *p.* 346. *Hym. Eur. p.* 235. *Berk. Out. p.* 156. *B. & Br. n.* 1234*. *C. Hbk. n.* 336. *Illust. Pl.* 401. *S. Mycol. Scot. n.* 304. A. argillaceus *Pers. Ic. pict. t.* 14. *f.* 2. A. affinis *Pers. Ic. descr. t.* 1. *f.* 1. *Bull. t.* 522. *f.* 2, too thin.

562. A. scabellus Fr.—**Pileus** 12 mm. (½ in.) high and a little more broad, normally fuscous or fuscous-rufescent, slightly fleshy, conical then expanded, umbonate, *silky-fibrillose*, at length also *torn into scales* outside the even umbo; flesh dingy. **Stem** 4 cent. (1½ in.) long, 1–2 mm. (½–1 lin.) thick, *stuffed, thin*, equal, tense and straight or flexuous, smooth, *rufescent* or becoming pale, obsoletely pruinose at the apex. Cortina not manifest. **Gills** *adnexed*, somewhat ventricose (but varying linear and narrow), more or less crowded, at the first not white but dingy, *becoming fuscous.*

Stem sometimes hollow. Stature of *A. geophyllus*, but very much thinner, gregarious, inodorous; the colour, which in *A. geophyllus* is typically white or lilac, is in this species fuscous or rufescent. A very changeable species.

Among short grass. Little Orme's Head, &c. Sept.–Nov. Inocybe.

Spores granulated like *A. fastigiatus*. *B. & Br.* Name—*scaber*, rough. Roughish. *Fr. Monogr.* i. *p.* 347. *Hym. Eur. p.* 235. *Icon. t.* 110. *f.* 1. *B. & Br. n.* 1235, 1940*. *C. Illust. Pl.* 402.

V.—Viscidi. *Pileus becoming even, viscid.*

563. A. trechisporus Berk.—**Pileus** about 2.5 cent. (1 in.) broad, umbo tawny, margin paler with a slight livid tinge, somewhat membranaceous, convex, strongly umbonate, margin thin, at first viscid but soon dry and silky. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, white, slightly striate under a lens and mealy, nearly equal, except at the base, the outer coat of which is cottony. **Gills** emarginate, scarcely adnate, ventricose, pinkish grey, extreme margin denticulate.

Spores bistre-brown, somewhat reniform, covered with granules.

In woods among fern. Uncommon. Aug.–Oct.

It varies with the pileus whitish. Stem stuffed. Undoubtedly overlooked for *A. geophyllus*, from which it differs in the *pileus being viscous when moist* and in the colour being sometimes cinereous, *Fr.* Name — τραχύς, rough; σπορά, seed. Rough-spored. *Berk. Out. p.* 156. *t.* 8. *f.* 6. *B. & Br. n.* 71. *C. Hbk. n.* 332. *Illust. Pl.* 403. *a. S. Mycol. Scot. n.* 305. *Fr. Hym. Eur. p.* 236. *Monogr.* ii. *p.* 346.

564. A. vatricosus Fr.—**Pileus** 12 mm. (½ in.) broad, slightly fleshy, convex then plane, obtusely umbonate, even, smooth, viscid in wet weather, when dry shining and obsoletely silky only round the margin. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, *fistulose*, equal, curved and contorted, white, not fibrillose, but white villous at the base and wholly white-*pulverulent*. **Gills** adnexed, broadly emarginate, almost free, broad, white then becoming fuscous.

Inodorous. Quite singular in the *pileus being viscid on the smooth disc and silky at the circumference;* its habit but not its stature is that of *A. geophyllus*. The stem varies 5 cent. (2 in.) and more long; curved ascending when smaller, often flexuous when elongated.

On dead stumps, &c. Bodelwyddan, 1863, &c. Sept.

Before the veil is ruptured it looks like a smooth *Lepiota*, *B. & Br.* Name —*vatricosus*, with bad feet. From the distorted stem. *Fr. Monogr.* i. *p.* 347. *Hym. Eur. p.* 236. *Icon. t.* 110. *f.* 3. *B. & Br. n.* 1005. *C. Hbk. n.* 337. *Illust. Pl.* 403. *b.*

565. A. Whitei B. & Br.—**Pileus** tawny, margin white and slightly viscid, convex, at first hemispherical, the shining white cortina fibrillose, at length expanded and wholly tawny. **Stem**

Inocybe. solid, shining white then tawny, becoming smooth. **Gills** adnexed, at first shining white.

A very curious and beautiful little species, allied to *A. vatricosus*. Stature that of *A. geophyllus*.

In pine wood. Rannoch, 1875. Oct.

Name—after F. Buchanan White. *B. & Br. n.* 1527. *S. Mycol. Scot. n.* 306. *C. Illust. Pl.* 404. *a.*

566. A. tricholoma A. & S.—**Pileus** 1–2.5 cent. (½–1 in.) broad, whitish, slightly fleshy, orbicular, rather plane, depressed in the centre, *fibrillose with white, adpressed,* at length obsolete *hairs, fringed at the margin with strigose hairs,* viscid when moist, shining when dry; flesh thin, white. **Stem** 2.5–7.5 cent. (1–3 in.) long, 2–4 mm. (1–2 lin.) thick, *stuffed,* thin, slightly attenuated upwards, whitish, *fibroso-scaly at the apex.* **Gills** *decurrent,* thin, scarcely 2 mm. (1 lin.) broad, crowded, becoming at first pallid fuscous then clay-fuscous.

In mixed woods. Herts., 1882, &c.

Formerly referred by Fries to *Flammula.* Spores sphæroid, echinulate, 4 mk. *K.* Name—from subgenus *Tricholoma. Fr. Hym. Eur. p.* 236. *Monogr.* i. *p.* 350 (under Flammula). *C. Illust. Pl.* 404. A. gnaphalio-cephalus *Bull. t.* 576. *f.* 1. (gills ferruginous)? *Kalchbr. t.* 20. *f.* 3.

Hebeloma. *Subgenus XXI.* **HEBELOMA** (ἥβη, youth; λῶμα, a fringe). Fr. Syst. Myc. i. p. 249. The partial veil fibrillose or obsolete. Stem fleshy, fibrous, clothed, somewhat mealy at the apex. Margin of the pileus at first incurved. Gills sinuato-adnate, edge more or less of a different colour, whitish. Cuticle of the pileus continuous, smooth, somewhat viscid. Spores somewhat clay-coloured. *Growing on the ground, strong-smelling, very much suspected, certain of them poisonous. Fr. Hym. Eur. p.* 237.

XXIII. Agaricus (Hebeloma) fastibilis. One-third natural size.

Hebeloma corresponds with *Tricholoma.* The pileus is *never fibrillose,* and the *veil* is *heterogeneous* from the pellicle. The species appear early in autumn and last late. None are edible.

I. Indusiati (*indusium*, a garment). *Furnished with a cortina from the manifest veil, by which the pileus is often superficially silky round the margin.* Hebeloma.

II. Denudati (*denudo*, to lay bare). *Pileus smooth, at the first with no cortina.*

III. Pusillus (diminutive from *pusus*, a little boy). *Pileus scarcely an inch broad.* Stature that of the Naucoriæ.

I.—Indusiati. *Furnished with a cortina from the manifest veil, &c.*

567. A. mussivus Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, either of one colour, *yellow*, or darker at the disc which is like a smooth sugar-cake, fleshy, *compact*, firm, convex then plane, unequal, very obtuse, viscid, at first *smooth* and even, then commonly repand and broken up into squamules; margin inflexed, even, at length repand; flesh becoming yellow. **Stem** 10 cent. (4 in.) long, commonly 2.5 cent. (1 in.) thick, *very fleshy*, sometimes stuffed, sometimes hollow at the apex, equal or ventricose, *wholly fibrillose and pruinate at the apex, light yellow.* Veil fibrillose, very fugacious. **Gills** emarginate, somewhat crowded, 6 mm. (3 lin.) broad, arid (not distilling drops) *at first light yellow*, then together with the spores somewhat ferruginous.

Odour weak, not unpleasant. *Very distinct;* it departs widely from all the following species in its habit and bright colours. The habit is that of a *Flammula* or *Cortinarius*, but the gills are emarginate and not pulverulent; from the repand pileus, from the stem being pruinose at the apex, and from other marks it is to be referred to *Hebelomata.*

In pine woods. Ascot, 1881. Oct.

Name—*mussivus*, stammering, undecided. From its uncertain place. *Fr. Monogr.* i. *p.* 322. *Hym. Eur. p.* 237. *Icon. t.* 111. *f.* 1. *C. Illust. Pl.* 405.

568. A. fastibilis Fr.—**Pileus** 5 cent. (2 in.) and more broad, pale yellowish, tan or becoming pale, compactly fleshy, convexo-plane, obtuse, somewhat repand, even, smooth, the involute margin pubescent. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) thick, *solid*, wholly fleshy-fibrous, stout, somewhat bulbous, often twisted, everywhere *white-silky and fibrillose*, white, but varying pallid, white-scaly upwards. Cortina remarkable, white, occasionally in the form of a ring. **Gills** remarkably *emarginate, somewhat distant*, rather broad, at first becoming pale-white, then dingy clay-colour, edge whitish, *distilling drops* in rainy weather.

Somewhat cæspitose. Odour and taste of radish, bitterish. Like *A. crustiliniformis;* the odour is the same except that it is stronger, but it differs conspicuously *in the manifest veil and somewhat distant gills.* Var. *alba*, stem longer, equal, somewhat hollow, fibrous-scaly at the apex, gills distant. A. spiloleucus *Krombh, t.* 62. *f.* 3-5. A. sulcatus *Lindgr.* is an elegant form with the margin of the pileus sulcate or rugoso-plicate.

Hebeloma. In mixed woods. Common. July–Oct.

A perfect form has occurred with a distinct membranaceous ring, and above the viscid coat of the pileus there was a circle of distinct floccose scales, *B. & Br.* Spores 11×8 mk. *W.G.S.* Name—for fastidibilis, *fastidio*, to loathe. From the disagreeable smell. *Fr. Monogr.* i. *p.* 329. *Hym. Eur. p.* 237. *Icon. t.* 111. *f.* 2. *B. & Br. n.* 905, 2004*. *C. Hbk. n.* 313. *Illust. Pl.* 406. *S. Mycol. Scot. n.* 307. A. gilvus *Schæff. t.* 221. A. obesus *Schum. Batt. t.* xv. *D.* B. pileus purple-brown *Paul. t.* 53. *f.* 2?

569. A. glutinosus Lind.—**Pileus** about 7.5 cent. (3 in.) broad, yellow-white, the disc darker, fleshy, convex then plane, *regular*, obtuse, with a tenacious *viscous* gluten, and slimy in wet weather, *sprinkled with white superficial squamules;* flesh whitish, becoming light-yellow. **Stem** 7.5 cent. (3 in.) long, *stuffed*, firm, *somewhat bulbous, white-squamulose* and fibrillose, and white-mealy at the apex, often strigose at the base, at length ferruginous within. Partial veil manifest, in the form of a cortina. **Gills** sinuato-adnate, somewhat decurrent, crowded, broad, *pallid then light yellowish*, at length clay-cinnamon.

Odour peculiar, mild.

On branches and among leaves, oak and beech. Frequent. Sept.–Dec.

So remarkably like *A. lentus* that I am inclined to think they are the same. See remarks under that species. Spores 5×4 mk. *W.P.;* pruniform, 7 mk. *Q.* Name—*gluten*, glue. Glutinous. *Lindgr. Bot. Not.* 1845, *p.* 199. *Fr. Monogr.* i. *p.* 324. *Hym. Eur. p.* 238. *Icon. t.* 112. *f.* 1. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 24. *C. Illust. Pl.* 430.

570. A. testaceus Batsch.—**Pileus** 4 cent. (1½ in.) broad, brick-pale but more frequently ochraceous-tan or tan, somewhat opaque, fleshy, *somewhat thin, campanulato-convex*, then flattened, regular and well formed, obtuse, even, smooth, obsoletely viscid or dry; flesh watery, hygrophanous. **Stem** 7.5 cent. (3 in.) long, 6 mm. (3 lin.) thick, somewhat fragile, *hollow*, solid however and somewhat thickened at the base, *fibrillose*, becoming pale-white, white-mealy at the apex, somewhat squamulose. **Gills** *attenuato-free, lanceolate, very thin*, very crowded, scarcely 2 mm. (1 lin.) broad, at first ascending, pallid then clay-colour, somewhat ferruginous.

Cortina *thin, fugacious.* Odour weak, of radish.

In woods and meadows. Frequent. Sept.–Oct.

Name—*testa*, a brick. Brick-coloured. *Batsch f.* 198. *Fr. Monogr.* i. *p.* 329. *Hym. Eur. p.* 238. *Berk. Out. p.* 157. *C. Hbk. n.* 314. *Illust. Pl.* 408. *S. Mycol. Scot. n.* 308. *Klotsch. t.* 387.

571. A. firmus Pers.—**Pileus** 5–7.5 cent. (2–3 in.) broad, brick- Hebeloma.
red, fleshy, *campanulate then flattened, umbonate,* the broad umbo darker, thin at the circumference, even, smooth, viscid. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) thick, solid, firm, *somewhat attenuated* and *commonly darker downwards,* clothed *throughout with* white *floccose squamules.* Cortina *evident,* white. **Gills** *rounded, crowded,* 4–6 mm. (2–3 lin.) broad, thin, *arid,* clay-colour then ferruginous, unspotted, but white-serrulated at the edge.

The gills do not distil drops, hence they are unspotted. Odour weak.

In fir woods. Laxton Park, 1875, &c. Feb., Oct.

In the letterpress to 'Icones' Fries describes his plant as convex then plane, and notes that the plant of Persoon differs in being campanulate and umbonate. In the fig. of Fries the pileus is at length depressed. The British plant is that of Persoon. Berkeley has gathered a plant referable to this, in which the pileus was at first of a deep brown, changing to tan, and the gills adnate with a minute decurrent tooth. Spores ellipsoid, attenuated at both ends, even, 11–12 × 5–6 mk. *K.* Name—*firmus,* firm. *Pers. Ic. descr. t.* 5. *f.* 3, 4. *Fr. Monogr.* i. *p.* 330. *Hym. Eur. p.* 238. *Icon. t.* 112. *f.* 3. *B. & Br. n.* 1531, 1942*. *C. Illust. Pl.* 409.

572. A. claviceps Fr.—**Pileus** *pallid, convex* then expanded, fleshy at the gibbous disc, even, *naked.* **Stem** stuffed, equal, everywhere white-mealy, fuscous downwards. **Gills** emarginate, crowded, arid, pallid.

Wholly different from *A. firmus* P. in the smaller stature of all its parts, in the stem being fuscous downwards, in the pallid gills, chiefly however in the *pileus being convex then expanded* and discoid, in no wise conical then campanulate.

In mixed wood. Uncommon. Sept.–Oct.

Name—*clavus,* a nail; *caput,* head. From its shape. *Fr. Hym. Eur. p.* 238. *Monogr.* ii. *p.* 346. *S. Mycol. Scot. n.* 309. *C. Illust. Pl.* 410. A. clavus *Batsch f.* 199 not *Linn. B. & Br. n.* 1236.

573. A. punctatus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, fleshy, convex, soon plane, *disc* obtuse or gibbous, always however *darker* and *viscoso-papillose,* at length depressed round the umber centre, like a smooth sugared cake, becoming pale when dry, *when young superficially silky round the margin* with the whitish fibrillose veil. **Stem** 5–10 cent. (2–4 in.) long, 4–8 mm. (2–4 lin.) thick, in its earliest stage *hollow,* equal, here and there flexuous, dry, pallid, white-pruinose at the very apex, otherwise *silky-fibrillose with the adpressed veil.* **Gills** narrowed behind and arcuato-adnate, slightly ventricose, *crowded,* quite entire, *narrow,* 2–4 mm. (1–2 lin.) broad, plane, pallid.

The cortina, which is never in the form of a ring, fugacious. Gregarious,

Hebeloma. growing in troops; odour very weak, but not unpleasant, not that of radish. Most distinct from the minute (under a lens) viscous papillæ on the pileus.

In pine woods. Uncommon. Sept.

Name—*punctus*, a point. Dotted. *Fr. Monogr.* i. *p.* 325. *Hym. Eur. p.* 239. *Icon. t.* 113. *f.* 1. *B. & Br. n.* 906. *C. Hbk. n.* 308. *S. Mycol. Scot. n.* 310.

574. A. versipellis Fr. *Young.*—**Pileus** 2.5 cent. (1 in.) and more broad, fleshy, convexo-plane, obtuse, *covered with a tenacious glutinous pellicle*, like a smooth sugared cake, *becoming pale at the disc*, covered round the margin with glued white-silky villous down. **Stem** about (5 cent. 2 in.) long, 4–6 mm. (2–3 lin.) thick, *hollow*, tough, equal, remarkably *white-silky* with the evident cortina and *white mealy above the ring formed by the cortina*. **Gills** rounded, crowded, thin, 6 mm. (3 lin.) *broad*, quite entire, arid, almost white.

Full grown, somewhat old. Pileus 7.5 cent. (3 in.) and more broad, fragile, of one colour, dingy tan, opaque, dry, as if by the vanishing of the pellicle. Stem longer, not silky, but longitudinally fibrilloso-striate, easily split up into fibres, and at length, chiefly within, becoming fuscous. Gills 8–10 mm. (4–5 lin.) broad, crowded, in no wise dotted or spotted, pallid then clay-cinnamon. It changes so much with age and weather that it is necessary to describe it separately when young and old. Pileus squamulose when young according to Lindgr. Odour weak, not unpleasant. Somewhat cæspitose.

Among fir-leaves. Uncommon. Aug.

Smell like that of several species of *Hymenogaster. B. & Br.* Spores pruniform, 12 mk. *Q.* Name—*verto*, to turn; *pellis*, skin. From its changeable appearance. *Fr. Monogr.* i. *p.* 326. *Hym. Eur. p.* 239. *B. & Br. n.* 907. *C. Hbk. n.* 309. *S. Mycol. Scot. n.* 311. *Sterb. t.* 20. *B.*

575. A. mesophæus Fr.—**Pileus** 2.5 cent. (1 in.) broad, pale yellowish, or becoming pale, disc somewhat date-brown, slightly fleshy, *conical* then convex, then plane, even depressed and *darker at the disc*, viscous, *even* and commonly smooth. **Stem** 5–7.5 cent. (2–3 in.) long, 4 mm. (2 lin.) thick, *somewhat fistulose, tough*, equal, *fibrillose, whitish then ferruginous*, becoming fuscous at the base, pruinose at the apex. *Cortina manifest*, but thin, fugacious. **Gills** rounded or emarginate, crowded, thin, plane, arid, not spotted, clay-ferruginous, the edge, which is not dotted and quite entire, of the same colour.

Odour weak, almost none. Variable, growing in troops. The pileus is rarely silky round the margin like *A. punctatus*, &c.

In pine woods. Uncommon.

Spores 8×5 mk. *W.P.* Name—μέσος, middle; φαίος, dusky. From the dusky centre of the pileus. *Fr. Monogr.* i. *p.* 327. *Hym. Eur. p.* 240. *Icon.*

t. 113. *f.* 3 var. *B. & Br. n.* 908. *C. Hbk. n.* 310. *Illust. Pl.* 411. *S.* Hebeloma. *Mycol. Scot. n.* 312. *Hoffm. Ic. t.* 6. *f.* 2. minor. *C. Illust. Pl.* 412.

576. A. subcollariatus B. &. Br.—**Pileus** about 2.5 cent. (1 in.) broad, pallid, somewhat fuscous in the centre, somewhat fleshy, convex, slightly glutinous, the floccose veil vanishing. **Stem** stuffed, at length delicately fistulose, brown at the base and pulverulent. **Gills** ventricose, separating, forming a short interrupted collar, clay-coloured, shining white at the edge.

Allied to *A. mesophæus*, of which we were at first inclined to consider it a variety.

On naked soil. Sibbertoft, 1881. Oct.

Spores elliptic, uninucleate, 13 mk. *B. & Br.* Name—*sub*, and *collare*, a collar. From the gills forming somewhat of a collar. *B. & Br. n.* 1942.

577. A. senescens Batsch.—**Pileus** 7.5 cent. (3 in.) and more in diameter, ochraceous-tawny, convex then flattened, slightly glutinous, delicately tomentose and white at the extreme margin. **Stem** 12.5 cent. (5 in.) long, at first bulbous and fuscous downwards, then, with exception of the shining white tomentose apex, squamulose, solid. **Gills** adnexed, crowded, at first pallid then cinnamon.

Flesh white; odour acrid. Sometimes semiglobose. Stem always dark below. Exactly resembling the figure of Batsch, which does not seem to have been noticed by Fries.

Among fir-trees. Gwrwch Castle. Corstorphine. Sept.

Name—*senesco*, to grow old. *B. & Br. n.* 1941 *bis*. *C. Illust. Pl.* 407.

II.—Denudati. *Pileus smooth, at the first with no cortina.*

578. A. sinapizans Fr.—**Pileus** 7.5–12.5 cent. (3–5 in.) and more broad, sometimes of one colour, clay, sometimes pale-yellowish at the disc, fleshy, *compact*, convex then plane, very obtuse, for the most part *repand* and often excentric, even, smooth, slightly viscid when fresh; flesh white. **Stem** 7.5–12.5 cent. (3–5 in.) long, 2.5 cent. (1 in.) thick, *stout, rigid, somewhat solid*, equal or fusiform-rooted, *fibrilloso-striate*, white, white-squamulose at the apex. **Gills** *deeply emarginate*, 6–10 mm. (3–5 lin.) *broad*, crowded, fragile, opaque, clay-cinnamon, always *arid* and unspotted, never distilling drops or dotted.

The largest of this group. Corresponding remarkably with *A. sinuosus*, but readily distinguished by its strong odour of radish, and quite destitute of a veil. Solitary.

Under trees in a field. Uncommon. Sept.

Hebeloma. There is a repand form with arcuato-decurrent gills. Spores pruniform, 12 mk. *Q.* Name—*sinapi*, mustard. *Fr. Monogr.* i. *p.* 327. *Hym. Eur. p.* 240. *B. & Br. n.* 1237. *Saund. & Sm. t.* 2. *C. Hbk. n.* 311. *Illust. Pl.* 413. *Paul. t.* 82.

579. A. crustiliniformis Bull.—**Pileus** pale-whitish tan, most frequently pale-yellowish or brick-colour at the disc, fleshy, convexo-plane, obtuse or slightly gibbous with an obtuse umbo, somewhat repand, even, smooth, at first slightly viscid, not zoned; flesh hyaline when moist. **Stem** *stuffed, then hollow*, stout, somewhat bulbous, white, naked, white-squamulose at the apex. **Gills** *rounded-adnexed*, crowded, *narrowed*, 2 mm. (1 lin.) broad and linear, thin, whitish then clay-colour, at length date-brown, *the unequal edge guttate, distilling watery drops in wet weather, spotted when dry.*

Veil quite *awanting*. Odour strong, fœtid, of radish. Very variable in stature; the stem, however, is never elongated as in *A. elatus*, &c.; in smaller specimens equal, pileus regular, gills almost adnate.

In mixed woods. Common. Aug.–Nov.

Forming large rings. Smell like that of the flowers of the common laurel. *A. planus* Sow. is apparently a small form of this species, *M. J. B.* Poisonous. Considered very dangerous. Pileus 2.5–10 cent. (1–4 in.) broad. Spores ellipsoid, 10–12×5–7 mk. *K.*; 9×5 mk. *W. G. S.* Name—*crustulum*, a small pie; *forma*, form. From the shape of the pileus. *Bull. t.* 308, 546. *Fr. Monogr.* i. *p.* 328. *Hym. Eur. p.* 241. *Sverig. ält. o. gift. Sv. t.* 64. *Berk. Out. p.* 157. *t.* 9. *f.* 1. *C. Hbk. n.* 312. *S. Mycol. Scot. n.* 313. Minor, *C. Illust. Pl.* 414. Picromyces pessundatus *Batt. t.* 47. B. gills date-brown. *Paul. t.* 152.

580. A. elatus Batsch.—**Pileus** as much as 7.5 cent. (3 in.) broad, tan-colour, fleshy, convex then flattened, obtuse, even, smooth, slightly viscid when moist, opaque becoming pale-tan when dry, margin very thin. **Stem** 10 cent. (4 in.) long, 8 mm. (4 lin.) thick, *stuffed*, equal and *cylindrical*, tense and straight, but the whole constantly *twisted with spiral fibres, adpressedly fibrillose*, pale-whitish, white-mealy at the apex. **Gills** rounded, with a small decurrent tooth, crowded, 6 mm. (3 lin). broad, *not spotted, arid*, not distilling drops, quite entire, pale cinnamon.

Pileus sometimes only 2.5 cent. (1 in.) broad. *Odour* of radish *very strong*. Veil *absolutely none*. In larger specimens the stem has an appendage in the form of an ovate villous bulb, which is covered over with fir-leaves. *Batsch f.* 108 represents it perfectly; it differs, however, entirely from *Cortinarius elatior*, which Persoon described for it.

In pine wood, among moss and leaves. Uncommon. Oct.–Nov.

Name—*elatus*, tall. *Batsch f.* 108. *Fr. Monogr.* i. *p.* 328. *Hym. Eur. p.* 241. *B. & Br. n.* 1238. *S. Mycol. Scot. n.* 314. *Saund. & Sm. t.* 42. *f.* 1 (a curt form).

581. A. longicaudus Pers.—**Pileus** 4-5 cent. (1½–2 in.) broad, *clay-colour*, the disc sometimes becoming fuscous, fleshy, not compact, convex then expanded, *umbonate*, at length repand, even, smooth, viscid; flesh soft, watery, but not hygrophanous. **Stem** 10 cent. (4 in.) *long*, 6–8 mm. (3–4 lin.) thick, *hollow*, *fragile*, equal or thickened at the base, *obsoletely fibrillose*, white, *mealy at the apex*, at length becoming tawny at the base. *No cortina* manifest. **Gills** arcuato-adnate, crowded, 6 mm. (3 lin.) broad, white-clay, at length cinnamon, *serrulated and somewhat dotted at the edge*. Hebeloma.

Odour weak, not unpleasant, in no wise that of radish.

In woods. Uncommon. Sept.–Oct.

Spores 11×6 mk. *W.G.S.* Name—*longus*, long; *cauda*, a tail. Long-stemmed. *Pers. Syn. p.* 332. *Fr. Monogr.* i. *p.* 331. *Hym. Eur. p.* 241. *Berk. Out. p.* 157. *t.* 9. *f.* 2. *C. Hbk. n.* 315. *Illust. Pl.* 415. *S. Mycol. Scot. n.* 315. *Batt. t.* 21. *F.* Var. radicatus *C. Illust. Pl.* 416.

582. A. lugens Jungh.—**Pileus** 5–7.5 cent. (2–3 in.) broad, brown, becoming somewhat yellow, fleshy, convexo-plane, smooth, somewhat viscid. **Stem** 5–7.5 cent. (2–3 in.) long, 6–8 mm. (3–4 lin.) thick, solid, *shining*, *fibrilloso-striate*, somewhat bulbous, white-mealy at the apex. **Gills** somewhat free, fragile, crowded, 4 mm. (2 lin.) broad, pallid then ferruginous, *crenulated and darker at the edge*.

Odour strong, but not of radish.

Under beech. Lyndhurst.

Name—*lugeo*, to mourn. Sombre in colour. *Jungh. in Linn.* v. *p.* 399. *Fr. Hym. Eur. p.* 241. *B. & Br. n.* 1762.—*Sterb. t.* 19. *H.*

583. A. truncatus Schæff.—**Pileus** 5–7.5 cent. (2–3 in.) broad, somewhat rufous, paler round the margin, *compactly fleshy*, convex then flattened, very obtuse, *undulato-repand*, very irregular, even, smooth or obsoletely superficially-silky round the margin which is at first inflexed and naked, scarcely viscous; flesh thick, white. **Stem** scarcely 2.5 cent. (1 in.) long, 8–10 mm. (4–5 lin.) thick, *solid*, robust, quite equal, white, *the whole delicately pruinate under a lens*, not fibrillose or squamulose. *Cortina none.* **Gills** *emarginato-free*, narrower behind, crowded, 4–6 mm. (2–3 lin.) broad, arid and not spotted, white then soon becoming pale or flesh-white, at length watery ferruginous, edge quite entire, but somewhat repand.

It varies with the pileus becoming pale, disc clay-coloured, margin white, and the gills very crisped, branched and anastomosing. Odour weak, not unpleasant.

Hebeloma.

On grassy bank. Dangstein, 1872. Sept.

Spores ovoid, 10 mk. *Q.* Name—*truncus*, maimed, hence dwarfed. From the short stem. *Schæff. t.* 251. *Fr. Monogr.* i. *p.* 331. *Hym. Eur. p.* 242. *B. & Br. n.* 1346. *C. Illust. Pl.* 417.

584. A. nudipes Fr.—**Pileus** 5 cent. (2 in.) and more broad, pale-tan or clay-colour, fleshy, not compact, convex then flattened, obtuse, unequal, even, *smooth*, viscid, scarcely perceptibly streaked, margin at first inflexed, then unfolded and ascending; flesh watery when fresh, white when dry, moderately compact at the disc; *margin*, however, *thin*, almost membranaceous, exceeding the gills. **Stem** about 6 cent. (2½ in.) long, 8–16 mm. (4–8 lin.) thick, *solid*, wholly fibrous, equal, sometimes straight, sometimes curved-ascending, *smooth and wholly naked above*, white. **Gills** broadly emarginate, crowded, dry, not spotted, quite entire, tan-colour.

Odour weak but not unpleasant. *Cortina none.* Departing from all the others in the stem being quite smooth and naked, but clothed with a separable pellicle.

In woods. Coed Coch, 1880, &c. Oct.

Name—*nudus*, naked; *pes*, a foot. Naked-stemmed. *Fr. Monogr.* i. *p.* 332. *Hym. Eur. p.* 242. *B. & Br. n.* 1868. *Kalchbr. t.* 14. *f.* 4. *C. Illust. Pl.* 418.

585. A. ischnostylus Cke.—**Pileus** 2.5–5 cent. (1–2 in.) broad, white or a little pallid at the disc, convex then expanded, and broadly umbonate, margin thin, slightly viscid, smooth, even. **Stem** 5 cent. (2 in.) long, slender, ⅛–⅙ in. thick, solid, equal or a little thickened at the base, smooth, naked. **Gills** rounded behind and adnate, slightly serrate at the margin, whitish then argillaceous.

Inodorous, or with a faint odour of *Spiræa*. Allied to *A. nudipes*.

On the ground amongst grass. Shrewsbury, 1879. Sept.

Spores .012 × .0075 mm. Name—ἰσχνός, thin; στῦλος, pillar. Thin-stemmed. *Grevillea, vol.* xii. *p.* 98. *C. Illust. Pl.* 420.

586. A. capniocephalus Bull.—**Pileus** 5–7.5 cent. (2–3 in.) broad, pale-yellowish, the disc darker, the margin at length becoming black, fleshy, convexo-plane, obtuse, even, smooth; flesh whitish. **Stem** stuffed, *attenuated downwards, rufescent-fibrillose-striate*, becoming pale. **Gills** emarginate, broad, scarcely crowded, ferruginous.

The flesh is thin at the sides according to the figure.

In mixed wood. Coed Coch, 1876, &c. Oct. Hebeloma.

Fries contemplated joining it either with *A. nudipes* or *A. diffractus*. Name —καπνός, smoke; κεφαλή, head. Of the dingy pileus. *Bull. t.* 547. *f.* 2. *Fr. Hym. Eur. p.* 242. *B. & Br. n.* 1763. *S. Mycol. Scot. n.* 316. *C. Illust. Pl.* 419.

III.—Pusilli. *Pileus scarcely an inch broad.*

587. A. magnimamma Fr.—**Pileus** 1 scarcely ever 2.5 cent. (½, 1 in.) broad, at first brick-colour, at length becoming pale-yellowish, not hygrophanous, comparatively very fleshy at the disc, where it is remarkably *swollen into a breast-shaped umbo*, convex then plane with exception of the umbo, even at the circumference; flesh white, thin towards the margin. **Stem** 2.5 cent. (1 in.) rarely more long, 2 mm. (1 lin.) thick, at first stuffed, then narrowly fistulose, fibrous (not cartilaginous), equal, but here and there flexuous, *smooth*, naked, and without a manifest veil, *pale-yellowish becoming pale*. **Gills** obtusely adnate, somewhat sinuate, crowded, 2 mm. (1 lin.) broad, pallid at length ferruginous.

The pileus is without the floccose-silky covering of *A. petigenosus*, to which it is allied.

Among grass under apple-trees. Sibbertoft. Autumn.

Name—*magnus*, large; *mamma*, breast. From the umbo. *Fr. Monogr.* ii. *p.* 299. *Hym. Eur. p.* 243. *Icon. t.* 114. *f.* 2. *B. & Br. n.* 2005.

588. A. petigenosus Fr.—**Pileus** about 12 mm. (½ in.) or a little more broad, slightly fleshy, *conical then convex*, somewhat umbonate, absolutely *dry*, *the gibbous fuscous disc naked*, *hoary-silky* with superficial closely adpressed fibrils *at the circumference*, when old rufescent or becoming yellow. **Stem** 2.5–5 cent. (1–2 in.) long, only 2 mm. (1 lin.) thick, *stuffed*, *tough*, *slender*, equal, or slightly attenuated at the base, *white pulverulent*, for the most part *brick-rufescent*, but varying becoming fuscous. Cortina none. **Gills** at the first slightly adnexed, soon free, ventricose, crowded, arid, light yellow then olivaceous-date-brown, under a lens often beautifully ciliated.

It is not allied to any; its habit is that of *A. geophyllus*.

On the ground in beech wood. Cabalva.

Name—*petigo*, scab. Scurfy. *Fr. Monogr.* i. *p.* 333. *Hym. Eur. p.* 243. *Icon. t.* 114. *f.* 4. *Grevillea*, *vol.* viii. *p.* 75.

Flammula.

Subgenus XXII. **FLAMMULA** (*flamma*, a flame). Fr. Syst. Myc. i. p. 250. Veil fibrillose or none. *Stem fleshy-fibrous*, not mealy upwards. Pileus fleshy, *margin at first involute. Gills decurrent or adnate without a sinus*, commonly quite entire, of one colour. *A few grow on the ground, the greater number on wood, passing into* Pholiotæ. *Fr. Hym. Eur. p.* 244.

XXIV. Agaricus (*Flammula*) *flavidus.* One-half natural size.

If *Flammula* were restricted to species with truly decurrent gills it would correspond with *Clitocybe*. Spores mostly pure ferruginous; some are fuscous-ferruginous, others tawny-ochraceous. The species appear late in the season. Taste insipid or bitter. None edible.

I. Gymnoti (γυμνός, naked). Veil none; pileus dry, most frequently squamulose. Spores ferruginous, in *A. decipiens* fuscous-ferruginous.

II. Lubrici (*lubricus*, slimy). *Pileus covered with a continuous, somewhat separable, smooth, viscous pellicle; cortina manifest, fibrillose.* Spores ferruginous, not tawny, but fuscous-ferruginous in *A. carbonarius. Gregarious, growing on the ground, rarely on wood.* They correspond with the Hebelomata, but are easily distinguished by the gills not being sinuate, by the more viscous pellicle being somewhat separable, by the apex of the stem not being pruinose, and by the odour, &c.

III. Udi (*udus*, moist). *Cuticle of the pileus continuous*, not distinct nor separable, *smooth* (here and there with a superficial covering) *moist or a little viscid in rainy weather. Cortina manifest, appendiculate.* Spores not tawny nor ochraceous. Allied to the *Pholiotæ*, cæspitose, growing on wood, most distinct from each other.

IV. Sapinei (*sapinus*, pine). Pileus scarcely pelliculose (the flesh, however, scissile or torn above into scales), not viscous, at first somewhat incrusted. *Veil* fibrilloso-adpressed to the stem, *not furnished with an appendiculate cortina, almost none, or forming an annular zone on the stem.* They are distinguished, however, *by the gills being light yellow or yellow then tawny, and by the ochraceous or tawny spores.* Somewhat cæspitose, *always on pine*, but here and there on the ground among pine-branches, forming a series of species in very close sequence, but yet very distinct.

V. Sericelli (slightly silky). *Furnished with a cortina, cuticle of the pileus slightly silky, dry or at the first viscid.*

I.—Gymnoti. *Veil none; pileus dry, &c.*

589. A. gymnopodius Bull. Dark *ferruginous*.—**Pileus** 5–7.5 cent. (2–3 in.) broad, fleshy, campanulato-convex, *squamulose.*

Stem 5 cent. (2 in.) and more long, 6 mm. (3 lin.) thick, solid, becoming smooth, equal. **Gills** *deeply decurrent*, arcuate, crowded. Flammula.

Cæspitose, most distinct. Stems ascending.

On pine sawdust. Munsted.

Name γυμνός, naked; πούς, a foot. Smooth-stemmed. *Bull. t.* 601. *f.* 1. *Fr. Hym. Eur. p.* 244. *C. Illust. Pl.* 431.

590. A. vinosus Bull.—**Pileus** ferruginous-fawn, fleshy, expanded, at length depressed, dry, *delicately flocculose*. **Stem** solid, firm, somewhat thickened at the base, *delicately flocculose* like the pileus. **Gills** decurrent, crowded, simple, narrow, ferruginous.

On the ground. Very rare. Morfa, Conway, &c.

From the figure of Bulliard the pileus is very fleshy at the disc and very thin at the margin, and the gills very decurrent. Fries thought it might be a species of *Paxillus*, but Berkeley is now satisfied that it is a true *Flammula*. Spores 5 mk. *B. & Br.* Name—*vinum*, wine. Wine-coloured. *Bull. t.* 54. *Fr. Hym. Eur. p.* 244. *B. & Br. n.* 1943. *C. Illust. Pl.* 437.

591. A. floccifer B. & Br.—**Pileus** 5 cent. (2 in.) broad, *tawny, sprinkled with snow-white fibrils*, somewhat fleshy, convex, expanded; flesh tawny at the edge and beneath the cuticle, elsewhere white. **Stem** 4 cent. (1½ in.) long, 6 mm. (3 lin.) thick, fistulose, attenuated downwards, white, with silky scales, umber within, furfuraceous within the pileus. Ring none. **Gills** moderately broad, rounded behind, adnate, scarcely ventricose, wrinkled transversely, ferruginous, edge white.

Spores ferruginous. Cæspitose. The pileus is somewhat zoned in drying. The habit is that of *A. velutinus*.

On stumps of lime. Colleyweston. Oct.

Name—*floccus*, a flock of wool; *fero*, to carry. From the white woolly fibrils on the pileus. *B. & Br. n.* 909. *t.* 14. *f.* 1. *C. Hbk. n.* 340. *Illust. Pl.* 438. *A. Fr. Hym. Eur. p.* 245.

592. A. decipiens Smith.—**Pileus** 2.5 cent. (1 in.) broad, rich *brown*, becoming pale, umbo almost white, fleshy, convex, dry, minutely squamulose; flesh pallid. **Stem** 5 cent. (2 in.) long, rich tawny, often swollen, attenuated downwards, twisted, striate. **Gills** decurrent, crowded, moderately broad, luminous brown.

Flesh within golden-yellow, bright brown at base. Ring none. Inclined to be fasciculate. Though at a first glance it resembles *A. carbonarius*, it differs greatly in the attachment of the gills, which are adnate in *A. carbonarius*.

On burnt earth, charcoal, &c. Epping Forest. June.

Spores bright tawny, oval, or with an apiculus at one end, 6 × 4 mk. *W.G.S.*

Flammula. Name—*decipio*, to deceive. From its likeness to *A. carbonarius*. *Worth. Smith in Journ. Bot.* 1869, *t.* 95. *f.* 5-8. *B. & Br. n.* 1241. *C. Hbk. n.* 348. *Illust. Pl.* 438. *B. Fr. Hym. Eur. p.* 245.

II.—Lubrici. *Pileus covered with a viscous pellicle, &c.*

593. A. lentus Pers.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *pale-whitish*, disc often clay-colour, fleshy, convex then plane, obtuse, even, smooth, but very *glutinous* in wet weather; flesh of the same colour. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, *somewhat stuffed*, tough, equal, often viscid, whitish or becoming light yellow and villous at the base, clothed with *floccose white reflexed scales*. **Gills** adnate, decurrent with a tooth, crowded, 2–4 mm. (1–2 lin.) broad, whitish, at length stained with the ferruginous spores.

Gregarious or somewhat cæspitose. In winter the pileus varies livid. At first it is sprinkled with separating scales.

In mixed woods, chiefly beech and oak. Frequent. Sept.–Dec.

I suspect this and *A.* (*Hebeloma*) *glutinosus* are one species. On examining the spores of a large number of specimens, growing at the same time within a limited area, I found the spores shading from the clay-colour of *Hebeloma* to the brighter colour of *Flammula*. The gills also were very sinuato-adnexed in younger specimens, and decurrent with a tooth when older. According to Fries it is found chiefly among beech-leaves, rarely on wood. Berkeley gives its habitat on stumps. I have found it both on the ground and on wood. Spores ellipsoid, 6–7 × 3–4 mk. *K.* Name—*lentus*, tough, pliant. *Pers. Syn. p.* 257. *Fr. Monogr.* i. *p.* 352. *Hym. Eur. p.* 246. *Berk. Out. p.* 158. *C. Hbk. n.* 341. *Illust. Pl.* 439, 440. *S. Mycol. Scot. n.* 317.

594. A. lubricus Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, *brick-red-tawny* or bright cinnamon, tough, fleshy, convex then flattened, obtuse, occasionally depressed and repand, even, smooth, *viscous*, thin towards the even margin; flesh white. **Stem** 5–10 cent. (2–4 in.) long, 6–10 mm. (3–5 lin.) thick, *solid*, equal or slightly attenuated upwards, dry, *laxly fibrillose*, whitish, at length becoming fuscous, pubescent at the base. **Gills** adnate, somewhat decurrent, crowded, 6 mm. (3 lin.) broad, *pallid then clay-colour*.

Spores ferruginous. It varies larger, the pileus spotted with glued-down scales, &c. Sometimes pallid with the disc tawny. Scarcely strong-smelling. Very much allied to *A. lentus*.

On trunks. Tunbridge Wells. Autumn.

Name—*lubricus*, slimy. *Fr. Monogr.* i. *p.* 352. *Hym. Eur. p.* 246. *Icon. t.* 116. *f.* 1. *B. & Br. n.* 1245.

595. A. lupinus Fr.—**Pileus** 7.5–10 cent. (3–4 in.) broad, *like a smooth sugared cake* or tan-fuscous, fleshy, convex and obtuse

then plano-depressed, even, smooth, covered with a viscous easily separable pellicle; flesh soft, white. **Stem** 2.5 cent. (1 in.) long, 12 mm. (½ in.) thick, *curt*, *firm*, thickened sometimes upwards sometimes downwards, whitish at the apex, otherwise *ferruginous with dense adpressed fibrils*, internally stuffed or hollow and becoming ferruginous. **Gills** adnato-decurrent, moderately crowded, broad, clay-colour. Flammula.

Pileus comparatively very much dilated. Easily recognised by its *very strong and very bitter odour*. There are two forms:—A. described above. B. milder, pileus tawny, stem and gills light yellowish.

In pastures. Glamis, 1874. Aug.

Name—*lupus*, a wolf. From the colour of the fibrils. *Fr. Monogr.* i. *p.* 352. *Hym. Eur. p.* 246. *B. & Br. n.* 1528. *S. Mycol. Scot. n.* 318.

596. A. mixtus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, dingy tan, fleshy, convexo-plane, obtuse, unequal at the disc which is somewhat compact like a smooth sugared cake and under a lens slightly wrinkled with gluten, paler towards the sloping margin, wholly smooth and even. **Stem** 2.5–7.5 cent. (1–3 in.) long, 6–8 mm. (3–4 lin.) thick, tough, *hollow*, equal; sometimes shorter, ascending, curved; sometimes elongated, flexuous, *fuscous-fibrillose* (fibrils lax); whitish, clothed below with reflexed rufous-fuscous scales and somewhat thickened at the base. Cortina manifest, fibrillose. **Gills** somewhat decurrent, 6–8 mm. (3–4 lin.) broad, somewhat crowded, *white then* clay-colour, unequal at the edge.

Inodorous. Somewhat cæspitose. The slightly firm flesh watery. The external appearance and colours are those of *A.* (*Hebeloma*) *punctatus*, &c., but in its whole nature it is nearest to *A. lentus*, *lubricus*, and *lupinus*.

In pine and mixed woods. Rare. Aug.–Nov.

Name—*mixtus*, mixed. One among a number of allies. *Fr. Monogr.* i. *p.* 353. *Hym. Eur. p.* 246. *B. & Br. n.* 1239, *bis*. *S. Mycol. Scot. n.* 319. *C. Illust. Pl.* 474. *Bull. t.* 562. *f. F.O.* resembles it sufficiently well

597. A. juncinus Smith.—**Pileus** 4 cent. (1½ in.) broad, sulphury yellow, disc rich brown, fleshy, hemispherical. **Stem** elongated, 10 cent. (4 in.) long, thin, attenuated downwards, clothed with a few fibres. **Gills** broad, very thin, red-brown.

Veil none. Taste nauseous and disagreeable, somewhat bitter. Allied to *A. mixtus*.

On dead bulrushes in an old clay-pit. N. Wooton. Nov.

Name—*juncus*, a rush. Found on rushes. *Worth. Smith in Journ. Bot.* 1873, *p.* 336. *C. Illust. Pl.* 475.

Flammula.

598. A. gummosus Lasch.—**Pileus** 2.5–5 cent. (1–2 in.) broad, pallid light yellow or becoming green, at length becoming ferruginous with the spores, paler at the circumference, fleshy, regular, campanulate then soon flattened, obtuse or depressed, covered with a separable, viscid pellicle, and *sprinkled* with superficial *floccose scales*, even when these separate, smooth; flesh thin, *becoming yellow*. **Stem** 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed*, or hollow when old, equal, tense and straight, rigid, silky-fibrillose, ferruginous-rubiginous at the base and for the most part when full grown, paler upwards. **Gills** adnate, crowded, narrow, *at first white-light-yellow, then cinnamon.*

Inodorous, not bitter.

On old stumps. Botanic Garden, Cambridge, &c. Dec.

Name—*gummi*, gum. Viscid. *Lasch Linn.* 1827, *n.* 325. *Fr. Monogr.* i. *p.* 354. *Hym. Eur. p.* 247. *Icon. t.* 116. *f.* 2. *B. & Br. n.* 1119. *C. Hbk. n.* 342. *Illust. Pl.* 441. A. tricolor *Tratt. Austr. f.* 38.

599. A. spumosus Fr.—**Pileus** about 5 cent. (2 in.) broad, *pallid light yellow*, disc often darker, slightly fleshy, convex then plane, somewhat umbonate, covered with a viscous separable pellicle, but *naked* (never sprinkled with squamules), even; flesh watery, *light yellow-green*. **Stem** 5–10 cent. (2–4 in.) long, 4 mm. (2 lin.) thick, *hollow*, thin, attenuated downwards, *light yellow* or of the same colour as the pileus, more or less fibrillose, but remarkably furnished with a cortina. **Gills** adnate, crowded, light yellow then ferruginous.

Gregarious, somewhat cæspitose, inodorous, very viscous in rainy weather. It varies with the pileus light yellowish and the stem olivaceous-fuscous.

In fir woods and on sawdust. Rare. Sept.–Nov.

Spores 5 mk. *B. & Br.*; 5×4 mk. *W.G.S.*; subellipsoid, 7–8×4 mk. *K.* Name—*spuma*, froth. *Fr. Monogr.* i. *p.* 354. *Hym. Eur. p.* 247. *Icon. t.* 116. *f.* 3. *B. & Br. n.* 1240. *C. Hbk. n.* 343. *Illust. Pl.* 476. *S. Mycol. Scot. n.* 320.

600. A. carbonarius Fr.—**Pileus** 2.5 cent. (1 in.) or a little more broad, tawny, fleshy, convex then soon plane and often depressed at the disc, even, smooth, viscous, margin inflexed; flesh slightly firm, yellow. **Stem** about 2.5–4 cent. (1–1½ in.) long, 2 mm. (1 lin.) rarely more thick, *somewhat fistulose, rigid*, equal or slightly thickened upwards, fibrilloso-*squamulose*, pallid, often blackish at the base. Cortina fibrillose, fugacious. **Gills** adnate, crowded, rather broad, *becoming fuscous-clay-colour.*

The soil is often rolled together by the mycelium into a small bulb. The blackness at the base of the stem may be from its habitat. Densely gregari-

ous; very much allied to *A. spumosus*, but very easily distinguished from all the preceding species by the *fuscous-ferruginous spores*. Its stature also is smaller, its structure tougher and lasting long, and its colours more intense. Flammula.

On charcoal and burnt earth. Frequent. Sept.–Nov.

Name—*carbo*, charcoal. From its habitat. *Fr. Monogr.* i. *p.* 355. *Hym. Eur. p.* 247. *B. & Br. n.* 1120. *Worth. Smith in Seem. Journ.* 1869. *C. Hbk. n.* 344. *Illust. Pl.* 442. *S. Mycol. Scot. n.* 321.

III.—Udi. *Cuticle of the pileus continuous, &c.*

601. A. fusus Batsch.—**Pileus** 5 cent. (2 in.) and more broad, somewhat brick-colour, fleshy, *compact*, convex then plane, obtuse, even, smooth, slightly viscid; flesh firm, pallid. **Stem** about 5 cent. (2 in.) long, firm, stuffed, attenuated in a fusiform manner downwards and rooted, *fibrilloso-striate*, pallid. Cortina manifest, appendiculate. **Gills** somewhat decurrent, not very crowded, pallid or light yellow then becoming ferruginous.

Spores dingy ferruginous. Gregarious rather than cæspitose. *Odour not bitter*, taste mild. The colour of the gills is variable, becoming green-grey, &c.

On the ground and stumps. Worthing, &c. Nov.

Name—*fusus*, a spindle. From the stem. *Batsch f.* 189. (Very small.) *Fr. Monogr.* i. *p.* 355. *Hym. Eur. p.* 247. *Icon. t.* 117. *f.* 1. var. *C. Illust. Pl.* 433, 434. A. pomposus *Bolt. t.* 5. A. hybridus *Bull. t.* 398.

602. A. astragalinus Fr.—**Pileus** 5 cent. (2 in.) and more broad, *blood-saffron* or golden-flesh colour, darker at the disc, pale at the circumference, fleshy, convex or lens-shaped then flattened, obtuse, somewhat moist in rainy weather, but not viscid, even, smooth, but when young *superficially-silky round the margin with the very thin adpressed whitish veil;* flesh firm, of the same colour, often becoming black when wounded. **Stem** 5–10 cent. (2–4 in.) long, 4–6 mm. (2–3 lin.) thick, *stuffed then hollow*, equal or attenuated downwards, flexuous, *scaly-fibrillose*, pallid, scarcely darker at the base. Cortina manifest, appendiculate, white. **Gills** adnate, crowded, broad, when young *pallid light yellow*, somewhat of the same colour as the pileus at the base, the obtuse edge flocculose when young.

Somewhat cæspitose. *Spores scanty, pallid or dingy ferruginous.* The attachment of the gills varies with situation. The colour is very peculiar, and cannot be easily described. Taste bitter, peculiar.

On pine and fir stumps. Rothiemurchus. Glamis. Aug.–Sept.

Although the colour of the flesh is the same it is always much brighter than that of the pileus. When exposed from being eaten by slugs the flesh does not turn black as it does when bruised. Name—ἀστραγαλῖνος, a goldfinch.

Flammula. From colour. Where the flesh has been eaten the colour is exactly like that of the head of the goldfinch. *Fr. Monogr.* i. *p.* 356. *Hym. Eur. p.* 248. *Icon. t.* 117. *f.* 2. *S. Mycol. Scot. n.* 322. *B. & Br. n.* 1944. *C. Illust. Pl.* 435.

603. A. alnicola Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *yellow*, at length becoming ferruginous and sometimes green, fleshy, convex then flattened, obtuse, slimy when moist, but not truly viscous, at the first superficially fibrillose towards the margin: flesh not very compact, of the same colour as the pileus. **Stem** 5–7.5 cent. (2–3 in.) and more long, 12 mm. (½ in.) thick, *stuffed then hollow*, attenuato-rooted, commonly curved-flexuous, *fibrillose*, at first yellow, then becoming ferruginous. *Cortina manifest*, sometimes fibrillose, sometimes woven into an arachnoid web. **Gills** somewhat adnate, broad, plane, at first *dingy-pallid* or yellowish-pallid, at length together with the plentiful spores ferruginous.

The gills vary decurrent and rounded according to situation. Odour and taste bitter. There are two forms: A. pileus irregular, fibrillose round the margin; gills at first dingy pallid. B. *salicicola*, pileus somewhat gibbous, smooth, rarely at the first floccoso-scaly; gills at first yellowish-pallid. In natural affinity it seems, especially *salicicola*, nearest to *Pholiota aurivellus*.

On old stumps. Rare. Sept.–Oct.

Spores subellipsoid, 8×5 mk. *K.* Name—*alnus*, alder; *colo*, to inhabit. *Fr. Monogr.* i. *p.* 356. *Hym. Eur. p.* 248. *B. & Br. n.* 1242. *S. Mycol. Scot. n.* 323. *C. Illust. Pl.* 443. A. amarus *Bull. t.* 562 (var. salicicola).

Var. salicicola. On willow. Sept. Loch-an-Eilan.

604. A. flavidus Schæff.—**Pileus** 2.5–12.5 cent. (1–5 in.) broad, bright *light yellow*, fleshy, convex then expanded, obtuse, even, *smooth*, moist but not viscous, for the most part regular; flesh white, then becoming light yellow. **Stem** commonly 7.5 cent. (3 in.) long, 6–10 mm. (3–5 lin.) thick, *stuffed then hollow*, sometimes attenuated sometimes thickened downwards, somewhat flexuous, fibrillose, light yellow, at length, especially at the base, becoming ferruginous. Cortina manifest, woven, adhering to the margin of the pileus, white, rarely almost in the form of a ring. **Gills** adnate, not much crowded, at first whitish, then *light yellow*, at length *tawny-ferruginous*.

Spores plentiful. It can be safely distinguished from *A. fascicularis* and its allies by its *purely ferruginous spores*. Forming large clusters, but very variable in size, according as the weather is favourable to its growth.

On fir, lime, &c. Frequent. Aug.–Nov.

Name—*flavus*, light yellow. Light yellowish. *Schæff. t.* 35. *Fr. Monogr.* i. *p.* 357. *Hym. Eur. p.* 248. *Berk. Out. p.* 158. *B. & Br. n.* 792*. *C.*

Hök. n. 345. *Illust. Pl.* 444. *S. Mycol. Scot. n.* 324. Compare *Tratt.* Flammula. *Austr. f.* 14.

605. A. inauratus Smith. Sulphury yellow.—**Pileus** 2.5 cent. (1 in.) or more broad, fleshy, moist, smooth, furnished with a distinct veil. **Stem** somewhat hollow, incurved, clothed with innate scales. **Gills** adnate, with a decurrent tooth, broad, pale-yellowish clay-colour.

Taste mild, insipid. Allied to *A. flavidus* and *A. Junonius.*

On willows. North Wooton, Norfolk. Nov.

Name—*inauro*, to gild. Gilded. From the colour. *Worth. Smith. Journ. Bot.* 1873, *p.* 336. *C. Illust. Pl.* 477.

606. A. conissans Fr. — **Pileus** 1–7.5 cent. (½–3 in.) broad, *light-yellowish-tan*, fleshy, thin, hemispherico-expanded, obtuse (varying umbilicate), smooth, moist; flesh equal, only 2 mm. (1 lin.) thick, white. **Stem** *hollow*, 5–7.5 cent. (2–3 in.) long, sometimes equal, sometimes attenuated downwards, commonly 4–6 mm. (2–3 lin.) thick, but often compressed and then 8–10 mm. (4–5 lin.) broad, irregular, twisted, *becoming light-yellow-white*, white-villous at the base, scarcely becoming ferruginous. Cortina silky-fibrillose, appendiculate. **Gills** adnate with a decurrent tooth, very crowded, not exceeding 4 mm. (2 lin.) broad, *linear, whitish, at length becoming fuscous-clay-colour.*

Spores very plentiful, dark ferruginous. Densely cæspitose, emitting an acid odour. It seems very different from *A. flavidus*, &c., thinner than these, with the habit of *A. fasciculatis.*

In woods, &c. Uncommon. Sept.–Oct.

Spores pruniform oblong, 7–9 mk. *Q.* Name—κόνις, dust. From its shedding abundance of spores. *Fr. Monogr.* i. *p.* 358. *Hym. Eur. p.* 249. *B. & Br. n.* 1243. *S. Mycol. Scot. n.* 325. *C. Illust. Pl.* 445. A. pulverulentus *Bull. t.* 178.

607. A. inopus Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, *honey-tan* or reddish-tan (not changeable), paler round the margin, fleshy, thin, convex then expanded, obtuse, slippery when moist, almost viscous, arid when dry, even, *smooth;* flesh thin, of the same colour as the pileus, hygrophanous, white when dry. **Stem** 7.5–10 cent. (3–4 in.) long, 2–4 mm. (1–2 lin.) thick, *fistulose*, thin, tough, flexuous, equal, *adpressedly fibrillose, pallid*, brick-colour downwards. Cortina fugacious. **Gills** adnate, thin, crowded, linear, light-yellow-white, sometimes green.

There are two forms; one figured by Bolton with the branched-rooted stem, densely cæspitose; the other (described by Fries) solitary or slightly cæspitose.

Flammula. Approaching nearer to *A. astragalinus* than to *A. flavidus*, &c., in its *scanty and dingy ferruginous spores.*

On Scotch fir, larch, &c. Rare. Aug.

Spores ellipsoid, 8 mk. *Q.* Name—*inops*, poor, scanty. From its shedding few spores. *Fr. Monogr.* i. *p.* 358. *Hym. Eur. p.* 249. *Icon. t.* 118. *f.* 1. *Berk. Out. p.* 158. *B. & Br. n.* 1417*. *C. Hbk. n.* 346. *Illust. Pl.* 446. *S. Mycol. Scot. n.* 326. A. ramoso-radicatus *Bolt. t.* 148 (exactly). *Batt. t.* 22. *C.* (not descr.)

608. A. apicreus Fr.—**Pileus** yellow, becoming pale and tan, disc tawny, fleshy, thin, rather plane, even, smooth, moist. **Stem** hollow, equal, not rooted, pallid, with ferruginous fibrils at the base. **Gills** adnate, crowded, thin, *shining ferruginous.*

Somewhat cæspitose. Odour mild. Very like *A. alnicola*, but the colour of the gills is somewhat unchangeable, flesh hygrophanous, &c.

In pine wood. Glamis, 1874, &c. Sept.

Spores pruniform, 6–7 mk. *Q.* Name—ἄπικρος, not bitter. *Fr. Hym. Eur. p.* 249. *B. & Br. n.* 1529, 1945. *S. Mycol. Scot. n.* 327. *C. Illust. Pl.* 436. A. lignatilis *Bull. t.* 554 *A.* (*B.* larger).

IV.—Sapinei. *Pileus scarcely pelliculose, &c.*

609. A. hybridus Fr.—**Pileus** about 5 cent. (2 in.) broad, at first tawny-cinnamon, then tawny-orange, fleshy, hemispherical with the margin involute, then expanded, obtuse, regular and well formed, even, *smooth, moist;* flesh moderately compact, pallid. **Stem** 5–7.5 cent. (2–3 in.) long, 8–10 mm. (4–5 lin.) thick, at first *stuffed* with a soft pith, then hollow, *attenuated* (almost conico-attenuated) *upwards*, whitish with adpressed silky villous down (becoming tawny when the down is rubbed off), slightly striate, white-villous at the base, and somewhat mealy at the apex. *Cortina manifest, in the form of an annular zone at the apex of the stem*, white or at length coloured with the spores. **Gills** adnate, somewhat crowded, *light yellow then tawny, not spotted.*

Spores ochraceous. Growing in troops.

On fir stumps and branches. Rare. Oct.–Nov.

This does not seem to be *A. hybridus* Sow. t. 221, whose affinities are doubtful, *M. J. B.* Fries thinks *A. hybridus* Sow. may be a form of *A. inopus.* Spores 6 × 4 mk. *W.P.* Name—a *hybrid.* Perhaps from its relation to species near it. *Fr. Monogr.* i. *p.* 360. *Hym. Eur. p.* 250. *Berk. Out. p.* 158. *B. & Br. n.* 1243*. *C. Hbk. n.* 347. *S. Mycol. Scot. n.* 328.

610. A. sapineus Fr.—**Pileus** commonly irregular and varying 2.5–10 cent. (1–4 in.) in breadth, *golden-tawny*, opaque at the disc, paler and shining towards the margin, fleshy, *compact, not scissile,*

hemispherical then convexo-plane, very obtuse, absolutely dry, the surface being covered with *thin squamulose* adpressed *floccules*, most frequently rimoso-scaly; flesh thick, firm, but at length soft, *becoming yellow*. **Stem** 4 cent. (1½ in.) long, 12 mm. (½ in.) thick, solid or hollow, but *stout, irregularly shaped* (often compressed), remarkably fleshy-fibrous, sulcate, even lacunose, naked, *becoming yellow-pallid*, turning fuscous when bruised, rooting at the base. **Gills** adnate, crowded, plane, 8 *mm.* (4 *lin.*) *broad, golden*, at length *tawny-cinnamon*. Flammula.

The remains of the *yellowish* cortina scarcely manifest, only adhering to the margin of the pileus. Somewhat cæspitose, with a strong odour. It varies much, also cæspitose and growing on the ground with an elongated fusiform-rooted stem; but it is most distinct alike from *A. hybridus*, &c., and *A. liquiritiæ*, &c., which, however, it unites. A. picreus *Pers. Ic. descr. t.* 4. *f.* 7 is an old form of this.

On pine-branches, sawdust, &c. Uncommon. Aug.–Nov.

Extremely variable, especially as to the breadth and mode of attachment of the gills. Remarkable, like *A. spectabilis*, for the bright colour of the spores. *B. & Br.* Spores subellipsoid, 8×5 mk. *K.*; 8×6 mk. *W.G.S.* Name—*sapīnus*, a pine-tree. Growing on pine. *Fr. Monogr.* i. *p.* 361. *Hym. Eur. p.* 251. *Icon. t.* 118. *f.* 3. *B. & Br. n.* 1006. *C. Hbk. n.* 349. *Illust. Pl.* 447. *S. Mycol. Scot. n.* 329.

611. A. liquiritiæ Pers.—**Pileus** 2.5–7.5 cent. (1–3 in.) broad, *bay-brown-* or orange-*tawny*, becoming pale, *slightly fleshy*, convex then flattened, somewhat umbonate, even, *very smooth, moist*, the margin at length flaccid and slightly striate; *flesh thin, scissile, yellow*. **Stem** 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, *hollow*, attenuated upwards, often unequal and curved, striate, *somewhat naked* (or obsoletely pruinate at the apex), *tawny then ferruginous*, yellow-tawny within, thickened and villous at the base. *Cortina none*. **Gills** obtusely adnate, and sometimes rounded, separating, plane, *crowded*, 6 mm. (3 lin.) *broad, golden*, then tawny, not spotted.

Gregarious, somewhat cæspitose, with an acid odour. Varying very much in structure and size, and approaching the *Hebelomata* in the gills being often somewhat sinuate.

On fir. Mattishall, 1883. Oct.

Taste sweet, like that of liquorice, *M. J. B.* Name—*liquiritia*, liquorice (corrupted from glycyrrhiza). From the taste. *Pers. Syn. p.* 306. *Fr. Monogr.* i. *p.* 362. *Hym. Eur. p.* 251. *Icon. t.* 119. *f.* 1.

612. A. picreus Fr.—**Pileus** 2.5 cent. (1 in.) broad, rufous- or *bay-brown-cinnamon*, when older becoming pale and tawny, slightly fleshy, *campanulate then convex*, obtuse, regular, even, *smooth*, moist in rainy weather; flesh very thin, not easily scissile,

Flammula. of the same colour as the pileus. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, *fistulose*, slightly attenuated upwards, tense and straight, when young everywhere *white-pulverulent, umber. Cortina none.* **Gills** ascending, crowded, *narrow* (scarcely 2 mm. (1 lin.) broad), *yellow then becoming ferruginous*, normally adnate, but varying decurrent and separating.

Spores ferruginous. Cæspitose, slender. There is a smaller variety with the pileus campanulate and rimuloso-papillate.

On old deal boards, and pine-stumps. Rare.

Spores sphæroid-ellipsoid, 8×5–6 mk. *K.*; 5×4 mk. *W.G.S.* Name—πικρός, bitter. *Fr. Monogr.* i. *p.* 362. *Hym. Eur. p.* 251. *Icon. t.* 119. *f.* 2. *B. & Br. n.* 1244. *C. Hbk. n.* 350. *Illust. Pl.* 448.

V.—Sericelli. *Furnished with a cortina, &c.*

613. **A. helomorphus** Fr.—**Pileus** 12–18 mm. (½–¾ in.) broad, *white*, truly fleshy, convexo-plane, gibbous or with a broad obtuse prominent umbo, often angular, *viscid;* when dry becoming adpressedly fibrilloso-even, the thin unequal *margin* inflexed, *naked.* **Stem** scarcely 2.5 cent. (1 in.) long, 4 rarely 6 mm. (2, 3 lin.) thick, *solid*, equal or not perceptibly attenuated from the base, ascending from the incurved base, wholly even and *smooth*, whitish. **Gills** plano-decurrent, very crowded, not 2 mm. (1 lin.) broad, *whitish*, scarcely clay-colour.

Stem slightly adpressedly silky upwards only under a lens. *Spores pallid ferruginous, paler than in the rest of the species.*

In fir woods. Mossburnford. Nov.

Spores pale brown, 4×6 mk. *B. & Br.*; 3×4 mk. *W.G.S.* Name—ἥλος, a nail; μορφή, form. Nail-shaped. *Fr. Monogr.* i. *p.* 349. *Hym. Eur. p.* 252. *Icon. t.* 120. *f.* 4 var. *B. & Br. n.* 1239. *C. Hbk. n.* 338. *Illust. Pl.* 449. *A. S. Mycol. Scot. n.* 330.

614. **A. scambus** Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *whitish*, fleshy, thin, convex then plane and depressed, *slightly silky, when young viscous in wet weather*, but the viscus is soon absorbed by the underlying down, so that it is commonly very dry, opaque. **Stem** 1–2.5 cent. (½–1 in.) or little more long, 2 mm. (1 lin.) thick, *stuffed*, equal, curved-ascending, *flocculose* or sprinkled with white mealy squamules, whitish, pubescent at the base. **Gills** adnate, crowded, somewhat repand, *light yellow-clay-colour.*

The stem has a paler line down the centre indicative of hollowness, and is fixed by the effused white naked mycelium. A very distinguished species, departing very much from the type. Gregarious, tough. Very changeable. There is a form with the stem attenuated and becoming ferruginous down-

wards, and with the pileus convex and umbonate, as much as 4 cent. (1½ in.) broad. Pileus at length clay-white. Flammula.

In pine woods, on larch. Uncommon. Sept.–Oct.

Name—σκαμβός, bow-legged. With curved stem. *Fr. Monogr.* i. *p.* 351. *Hym. Eur. p.* 253. *Icon. t.* 120. *f.* 3. *Berk. Out. p.* 157. *B. & Br. n.* 1417*. *C. Hbk. n.* 339. *Illust. Pl.* 449. *B. S. Mycol. Scot. n.* 331.

A. filiceus Cke. *Seem. Journ.* 1863, *p.* 65. *t.* 3. *f.* 1. *Illust. Pl.* 450. On tree-fern. Fries does not regard this as European.

Subgenus XXIII. **NAUCORIA** (*naucum*, a nut-shell). Fr. Syst. Myc. i. p. 260. Veil none or fugacious, squamulose. *Stem cartilaginous*, fistulose or spongy-stuffed. *Pileus* more or less fleshy, convexo-plane or conical, *the margin at the first inflexed. Gills free or adnate*, not decurrent. *Growing on wood or on the ground, somewhat rooted, scarcely strong-smelling. Fr. Hym. Eur. p.* 253. Naucoria.

Naucoria corresponds with *Collybia* and *Leptonia*. The species differ very widely from each other. *Spores ferruginous.* Not remarkable either for smell or taste. None edible.

XXV. Agaricus (*Naucoria*) *semi-orbicularis.* One-half natural size.

I. Gymnoti (γυμνός, naked). Pileus smooth. Veil none. Spores ferruginous, not becoming fuscous-ferruginous.

* *Gills free or slightly adnexed.*

** *Gills adnate, pileus convexo-plane.*

*** *Gills adnate, pileus campanulate then expanded.*

II. Phæoti (φαιός, dusky). Pileus naked. Gills and spores fuscous-ferruginous. Veil potential, but rarely manifest. (The partial veil visible in most though fugacious, in the form of a cortina. Monogr. p. 375.)

* Pediadei (πεδίον, a plain), *growing in fields and plains.*

** Scorpioidei (*A. scorpioides*), *growing in moist, uncultivated, wooded places.*

III. Lepidoti (λεπίς, a scale). Typical Naucoriæ. Pileus flocculose or squamulose. Veil manifest. Spores ferruginous. Compare *Tubaria paludosus* and *stagninus.*

* *Squamules of pileus superficial, separating.*

** *Pileus with innate squamules.*

*** *Pileus destitute of scales, silky or sprinkled with atoms.* Compare *A. furfuraceus* when old.

Naucoria.

I.—Gymnoti. Pileus smooth. Veil none, &c.

** Gills free or slightly adnexed.*

615. A. lugubris Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, *pallid* when young, *then ferruginous*, and at length almost date-brown, fleshy, *campanulate*, then expanded, gibbous, even, smooth; flesh white. **Stem** 7.5–10 cent. (3–4 in.) long, 6–10 mm. (3–5 lin.) thick, *rooted*, with a long attenuated fusiform root, *stuffed* with a white spongy pith; externally remarkably cartilaginous, rigid, smooth, *pallid* upwards and when young, becoming ferruginous downwards and when older. **Gills** quite *free*, ventricose, but very broad behind, 12 mm. (½ in.) and more broad, crowded, *pallid then ferruginous*, edge for the most part serrated.

Spores pallid then ferruginous. Veil quite awanting. Often cæspitose. A remarkable form has occurred with the pileus bullate and undulated, date-brown on the disc, tenaciously viscid, and the stem short, 5 cent. (2 in.)

In a mountain fir wood. Coed Coch. Autumn.

Spores very irregular, 5–7 mk. subglobose, *B. & Br.*; pruniform, rugulose, 10 mk. *Q.* Name—*lugeo*, to mourn. Sombre. *Fr. Monogr.* i. *p.* 364. *Hym. Eur. p.* 253. *Icon. t.* 121. *f.* 1. *B. & Br. n.* 1945 *bis.*

616. A. hamadryas Fr.—**Pileus** 4–5 cent. (1½–2 in.) broad, *bay-brown-ferruginous* when young and moist, pale yellowish when old and becoming pale, slightly fleshy, convex then expanded, gibbous, even, smooth. **Stem** 5–7.5 cent. (2–3 in.) long, 6 mm. (3 lin.) thick, *somewhat fragile, hollow*, equal, naked, smooth, *pallid*. **Gills** *attenuato-adnexed*, somewhat free, slightly ventricose, almost 4 mm. (2 lin.) broad, crowded, *ferruginous*, opaque.

Veil none. Widely removed from neighbouring species. Pileus *somewhat separate* as in *Plutei*.

On the ground in woods. Brandon.

Name—Ἁμαδρυάς, a nymph whose life was bound up with that of her tree. *Fr. Monogr.* i. *p.* 366. *Hym. Eur. p.* 254. *Icon. t.* 121. *f.* 3. *B. & Br. n.* 1870.

617. A. cidaris Fr.—**Pileus** scarcely 2.5 cent. (1 in.) broad, but when flattened as much as 5 cent (2 in.), *clay-cinnamon* when moist, tan when dry, slightly fleshy at the disc, membranaceous round the undulated (scarcely inflexed) margin, *conical then campanulate*, even, smooth, slightly striate at the margin when moist; flesh scissile, white when dry. **Stem** 4 cent. (1½ in.) or little more long, *fistulose, attenuated from the apex* to the base (at the base 2 mm., 1 lin., at the apex 4 mm., 2 lin., thick), somewhat compressed,

flexuous, smooth, tough, for the most part *fuscous-black*, of the same colour as the pileus at the apex. **Gills** *adfixed*, separating-free, ascending, ventricose, crowded, 4 mm. (2 lin.) and more broad, *honey-colour* or cinnamon-clay. Naucoria.

Almost inodorous. It occurs smaller and more elegant, with the pileus dark *tawny-cinnamon*, the stem straight, and the gills less crowded. It approaches *A. cucumis*.

In pine woods, &c. Hereford, 1884.

Name—*cidaris*, an ornament, tiara. *Fr. Monogr.* i. *p.* 367. *Hym. Eur. p.* 255. *Icon. t.* 123. *f.* 2 var. minor. *Grevillea, vol.* xii. *p.* 98. *C. Illust. Pl.* 451.

618. A. cucumis Pers.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, when moist *bay-brown-fuscous*, becoming somewhat purple and paler towards the margin, when dry fawn or tan colour, slightly fleshy, *broadly campanulate*, obtuse, smooth, even. **Stem** 2.5–5 cent. (1–2 in.) long, 3 mm. (1½ lin.) thick, firm, tense and straight, attenuated downwards, stuffed, *hollow thickened* and somewhat *pruinose upwards*, *date-brown* or fuscous-blackish, paler at the apex. Veil none. **Gills** *adnexed*, very *ventricose*, crowded, distinct, *pallid then somewhat saffron-yellow*.

Spores ferruginous. It varies smaller, with the pileus somewhat membranaceous, papillate, slightly striate when moist. *Odour of cucumber.*

On the ground in fir woods, and on sawdust. Frequent. Sept.–Nov.

See remarks under *A. pisciodorus*. *A. cucumis* in certain stages smells strongly of rotten fish. Spores 8 × 3 mk. *W.P.*; pruniform, nucleate, 10 mk. *Q.* Name—*cucumis*, cucumber. Of the odour. *Pers. Syn. p.* 310. *Fr. Monogr.* i. *p.* 368. *Hym. Eur. p.* 255. *Berk. Out. p.* 159. *C. Hbk. n.* 358. *Illust. Pl.* 452. *S. Mycol. Scot. n.* 332. A. fuscipes *Sow. t.* 344.

619. A. anguineus Fr.—**Pileus** 5 cent. (2 in.) and more broad, pale yellowish or rufous, somewhat tan when dry, slightly fleshy, campanulate then convex, gibbous, even, smooth, but when young covered *near the margin with a* superficial *silky zone* from the fibrils of the veil. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, and more at the thickened base, *somewhat hollow*, somewhat flexuous, *densely white-fibrillose*, hence marked with silky spots when dry, *bay-brown*. **Gills** somewhat free, ascending into the top of the cone, crowded, *somewhat linear*, at first pallid-isabelline, then ferruginous.

Manifestly allied to *A. cucumis*, but larger, more robust, and remarkable especially for the traces of the veil.

On the ground. West Lynn, &c. Nov.

Naucoria.

Name—*anguis*, a snake. From the flexuous and spotted stem. *Fr. Monogr.* i. *p.* 368. *Hym. Eur. p.* 255. *Icon. t.* 122. *f.* 1. *Grevillea, vol.* x. *p.* 66. *C. Illust. Pl.* 455.

620. A. centunculus Fr.—**Pileus** 8–20 mm. (4–10 lin.) broad, lurid or olivaceous-fuscous then *becoming light yellow-green*, becoming pale, but *not hygrophanous*, slightly fleshy, *convex then plane*, obtuse, often excentric, even, dry, slightly silky under a lens, margin incurved. **Stem** 2.5 cent. (1 in.) or little more long, 2–4 mm. (1–2 lin.) thick, fistulose, somewhat equal, *cinereous-light-yellow*, white-villous at the base and *pulverulent with white mealy squamules at the apex*. **Gills** adnate, but separating, *broad, rather thick*, sometimes crowded, sometimes distant, convex and undulated when old, *light yellow-cinereous*, also slightly toothed at the edge with greenish-yellow floccules.

Spores ochraceous. The margin of the pileus according to Lasch is occasionally yellow-pulverulent. The stem varies curved from position, commonly incurved, often excentric. A very singular species, widely removed from all others. Gregarious, even cæspitose, firm, tough, and without a veil. There is a smaller variety; pileus thinner, margin striate, but agreeing in the singular combination of colours, cinereous, yellow and green.

On rotten wood. Rare. Oct.

Name—*cento*, patchwork. From the colouring. *Fr. Monogr.* i. *p.* 369. *Hym. Eur. p.* 255. *Berk. Out. p.* 159. *C. Hbk. n.* 359. *Kalchbr. t.* 17. *f.* 3.

621. A. horizontalis Bull. Watery cinnamon.—**Pileus** 8 mm. (4 lin.) broad, slightly fleshy, convexo-plane, obtuse, even. **Stem** *solid*, very short, *incurved*, naked. **Gills** rounded-free, broad, plane.

Pileus comparatively very fleshy, rufescent. Growing in troops like *A. corticola*; at first sight somewhat sessile.

On elm-trunks. Rare.

Name—*horizontalis*, horizontal. *Bull. t.* 324. *Fr. Hym. Eur. p.* 256. *Berk. Out. p.* 159. *C. Hbk. n.* 360. *Sow. t.* 341.

622. A. rimulincola Rabenh. Cinnamon.—**Pileus** hemispherical, *umbilicate, plicate, slightly wrinkled-tomentose*. **Stem** somewhat excentric, short, incurved, somewhat thickened at the base. **Gills** adnexed, somewhat distant, thick, very broad, whitish-crenulate.

Spores ovoid, cinnamon.

On cut elm. Rannoch.

Name—*rimula*, a small crack; *colo*, to inhabit. Growing in crevices of the bark. *Rabenh. Exs. n.* 1511. *Flora* 1851, *p.* 505. *Hym. Eur. p.* 256. *S. Mycol. Scot. n.* 333.

623. A. semiflexus B. & Br.—**Pileus** 12 mm. (½ in.) broad, chestnut, hygrophanous, moderately fleshy, somewhat campanulate, then hemispherical or flattened above, margin adorned with the delicate white veil; flesh white. **Stem** 18 mm. (¾ in.) long, ⅔ lin. thick, solid, semi-horizontal. **Gills** adnexed, distant, tawny. Naucoria.

Allied to *A. horizontalis*.

On the side of a bank. Ascot, 1867. Oct.

Spores echinulate, oblong, 9–10 × 6–9 mk. *B. & Br.*; pruniform elliptical, 6–8 mk. *Q.* Name—*semi*, half; *flecto*, to bend. From the semi-horizontal stem. *B. & Br. n.* 1246. *Fr. Hym. Eur. p.* 256.

624. A. rubricatus B. & Br.—Cæspitose; white then tinged with red; the very small pilei at length rather plane; stems slender.

On decayed bramble-twig. Hereford, 1878.

The largest specimen was scarce half an inch high, and the diameter of the pileus about a quarter of an inch; the stem hollow, sprinkled with delicate mealy granules at the base, and about half-way up; gills adnexed behind, and narrowed in front, whitish, then flesh-coloured, becoming brownish, *M.C.C.* Name—*rubrico*, to colour red. *B. & Br. n.* 1873. *Grevillea, vol.* x. *p.* 43.

** *Gills adnate, pileus convexo-plane.*

625. A. abstrusus Fr.—**Pileus** 4 cent. (1½ in.) broad, *ferruginous-clay*, fleshy, thin, convex then plane, orbicular, even, smooth, *viscid;* flesh watery, very thin at the circumference. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, remarkably cartilaginous, tough, *rigid*, fistulose, equal, round, tense and straight, polished, naked, even, *pallid ferruginous*, darker at the base. Veil none. **Gills** adnate, crowded, plane, cinnamon or watery ferruginous.

The whole plant is slightly firm.

On sawdust and in woods. Coed Coch, &c. Oct.

Name—*abstrusus*, hidden, secluded. *Fr. Monogr.* i. *p.* 370. *Hym. Eur. p.* 257. *Icon. t.* 122. *f.* 2. *B. & Br. n.* 1871. *C. Illust. Pl.* 456.

626. A. innocuus Lasch.—**Pileus** 4 cent. (1½ in.) broad, rufous, becoming pale when dry, slightly fleshy, convex, obtuse, rather smooth (fibrilloso-evened under a lens), *striate.* **Stem** 4–5 cent. (1½–2 in.) long, stuffed, *white fibrillose*, woolly at the base. **Gills** adnate, somewhat crowded, light yellow-ochraceous.

Spores rubiginous.

Naucoria.

In damp places.

Name—*innocuus*, harmless. Spores 10×4–6 mk. *M.C.C.* *Lasch n.* 398. *Fr. Hym. Eur. p.* 257. *C. Illust. Pl.* 489. *a.*

627. A. cerodes Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, watery cinnamon when moist, tan-colour *when dry*, somewhat membranaceous, *campanulato-convex* and flattened, at length depressed, *obtuse*, when moist smooth, pellucid-striate at the circumference, *when dry* even, *slightly silky-atomate*. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, slightly firm, fistulose, equal, somewhat flexuous, fibrilloso-striate under a lens, *becoming bay-brown-fuscous* sometimes for the most part, sometimes only at the base, pallid upwards, mealy at the apex. **Gills** adnate, separating, *very broad behind*, hence almost triangular, *somewhat distant*, broad, plane, soft, distinct, pallid then cinnamon, very finely fimbriated at the edge under a lens.

The typical form, growing among damp mosses is quite early, gregarious, with the colours almost those of *A. hypnorum*, but otherwise very different. B. Another form occurs on naked, commonly burnt soil, in late autumn with almost the habit of *A. pediades*, but with a different colour of gills and spores; this form is firmer, stem 2.5 cent. (1 in.) long, tense and straight, and colour more ochraceous.

Among moss. Sept.

In 'Hym. Eur.' (description a reprint of 'Epicr.') Fries gives the larger form as the later. Spores 9 mk. *B. & Br.* Name—κηρός, wax. *Fr. Monogr.* i. *p.* 370. *Hym. Eur. p.* 257. *B. & Br. n.* 1948. *C. Illust. Pl.* 489. *b.*

628. A. melinoides Fr.—**Pileus** 12–18 mm. (½–¾ in.) broad, *tawny* when moist, ochraceous when dry, fleshy, *convex then plane*, obtuse or gibbous, even, smooth, striate at the margin when old. **Stem** short, 4 cent. (1½ in.) long, 2 mm. (1 lin.) thick, slightly firm, fistulose, equal or slightly attenuated, *somewhat of the same colour as the pileus, paler at the base*, delicately white-pruinose at the apex. **Gills** adnate, *crowded, somewhat tawny*.

There is also an elongated form, confounded with *A. cerodes*, in which the stem is 5–7.5 cent. (2–3 in.) long, slightly attenuated at both ends, flexuous, rather smooth, ochraceous; pileus globose then hemispherical, 12 mm. (½ in.) broad; gills adnate, ventricose, light yellowish-ochraceous. *A. melinoides* Bull. is *A. hypnorum*, not this species, but in the same plate a figure of this has crept in.

On lawns, roadsides, &c. Common. June–Nov.

In 'Hym. Eur.' gills are described as triangular-oblong, slightly toothed and honey-coloured. Spores elliptic, 16 mk., with one or two nuclei, *B. & Br.* Name—μέλι, honey. Honey-like. *Fr. Monogr.* i. *p.* 371. *Hym. Eur. p.* 257. *Berk. Out. p.* 160. *t.* 9. *f.* 3. *C. Hbk. n.* 361. *Illust. Pl.* 457. *a. S. Mycol. Scot. n.* 334.—*Bull. t.* 560. *f.* 1. *F* only.

629. A. pusiolus Fr.—**Pileus** 8–12 mm. (4–6 lin.) broad, yellow, not hygrophanous, somewhat membranaceous, hemispherical then expanded, obtuse, even, smooth, *slightly viscid.* **Stem** scarcely 2.5 cent. (1 in.) long, filiform, fistulose, tough, flexile, smooth, slightly viscid, shining light yellow. **Gills** adnate, broad, crowded, plane, watery cinnamon. Naucoria.

B. Pileus 6–8 mm. (3–4 lin.) broad, tawny-yellow, slightly fleshy, campanulato-hemispherical, obtuse, even, viscous. Stem 4 cent. (1½ in.) long, almost 2 mm. (1 lin.) thick, attenuated upwards, flexuous, smooth, somewhat viscous, lemon-yellow, pruinose at the apex. Gills adnate, distant, 2 mm. (1 lin.) broad, at first yellow-white. Always readily distinguished from all the preceding species by the *pileus and stem being viscid and lemon-yellow.* Shining like *A. melinoides,* not hygrophanous-atomate or slightly silky as in similar species of *Galeræ.*

On the ground. West of England.

Name—*pusus,* a little boy. Very small. *Fr. Monogr.* i. *p.* 372. *Hym. Eur. p.* 258. *Icon. t.* 124. *f.* 4. *B. & Br. n.* 1347. *C. Illust. Pl.* 457. *b. Pers. t.* 25. *f.* 1 (an old state).

**** Gills adnate, pileus campanulate then expanded.*

630. A. nuceus Bolt.—**Pileus** 1–2.5 cent. (½–1 in.) broad, pale chestnut, somewhat membranaceous, *globoso-campanulate,* never flattened, *umbilicate,* smooth, slightly dotted, *the incurved margin somewhat lobed.* **Stem** about 7.5 cent. (3 in.) long, slender, 2 mm. (1 lin.) thick, but tough, fistulose, equal, with a small bulb at the base, *silky-fibrillose, becoming even, white.* Veil not conspicuous. **Gills** adnate, 6–8 mm. (3–4 lin.) broad, *semicircular* (hence narrower behind but not sinuate), plane, often undulated, cinnamon.

A wholly abnormal species, but the Swedish, Russian, and Scotch specimens agree so exactly that it seems quite typical.

In pine woods. Rare. Oct.

Spores 11×6 mk. *W.G.S.* Name—*nux,* a nut. From its shape. *Bolt. t.* 70. *Fr. Monogr.* i. *p.* 372. *Hym. Eur. p.* 258. *Berk. Out. p.* 159. *C. Hbk. n.* 362. *Illust. Pl.* 490. *a.* after Bolton. *S. Mycol. Scot. n.* 335.

631. A. scolecinus Fr.—**Pileus** scarcely reaching 2.5 cent. (1 in.) broad, *bay-brown-ferruginous,* opaque, paler round the margin, slightly fleshy, campanulate then convex, sometimes umbonate, sometimes obtuse, even, smooth, fragile, at length striate round the margin. **Stem** 5–7.5 cent. (2–3 in.) long, rigid, fistulose, equal, often flexuous and curved, *rufous-ferruginous, white-mealy* at first everywhere, then at the paler apex, becoming fuscous at the base. Veil none. **Gills** adnate, *somewhat distant,* distinct,

Naucoria. broader behind (scarcely beyond 2 mm., 1 lin., broad), *whitish-flesh-colour then ferruginous*, the flocculose edge ciliated.

Spores dark ferruginous.

On moist ground under alders. Powerscourt, Wicklow, 1867. Sept.

Spores apiculate, 7 × 25 mk. *B. & Br.* Name—σκώληξ, a worm. From the curved and flexuous stem. *Fr. Monogr.* i. *p.* 374. *Hym. Eur. p.* 258. *B. & Br. n.* 1247. *C. Illust. Pl.* 491. *b.*

632. A. striæpes Cke.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, ochraceous, campanulate, obtuse, then expanded, smooth, even. **Stem** 5–7.5 cent. (2–3 in.) long, 4 mm. (2 lin.) thick, hollow, equal, erect or flexuous, white, *longitudinally striate.* **Gills** slightly adnate behind, rather distant, tawny-ferruginous.

Cæspitose, or gregarious.

Among grass on lawn. Kew Gardens.

Name—*stria*, a line; *pes*, a foot. Striate-stemmed. *Cke. Grevillea, vol.* xiii. *p.* 60. *Illust. Pl.* 478.

633. A. sideroides Bull.—**Pileus** pale yellowish or cinnamon when moist, tan-ochraceous when dry, *somewhat shining*, slightly fleshy, campanulate (12 mm., ½ in., high and broad) then expanded (almost 2.5 cent., 1 in., broad), *umbonate*, smooth, even, very slightly viscid when moist; the margin when young incurved, entire, then slightly striate. **Stem** 7.5 cent. (3 in.) long, 2–4 mm. (1–2 lin.) thick, sometimes fistulose, sometimes stuffed, slightly firm, equal, sometimes undulated or slightly thickened at the apex, even, *smooth* or white-pruinose at the apex, *pallid then becoming yellow*, becoming ferruginous downwards, and at length becoming fuscous at the base. **Gills** adnate, with a small *decurrent tooth*, sometimes sinuate and hence *uncinato-adfixed*, ascending, *crowded, linear*, becoming watery yellow-ochraceous, at length somewhat cinnamon.

A form which grows on the ground departs from the type in the paler colour, honey-coloured. Veil absolutely none.

On stumps and on ash-trunks. Rare. Oct.–Nov.

Much thicker than *A. hypnorum*, which it somewhat resembles. Spores 10–13 mk., half as much wide, *B. & Br.* Name—σίδηρος, iron. Ferruginous. From the stem. *Bull. t.* 588. *Fr. Monogr.* i. *p.* 373. *Hym. Eur. p.* 258. *B. & Br. n.* 1007, 1947. *C. Hbk. n.* 363. *Illust. Pl.* 458. *a. S. Mycol. Scot. n.* 336.

634. A. badipes Fr.—**Pileus** 8–12 mm. (4–6 lin.) broad, *pale*

yellowish-ferruginous when moist, tan when dry, somewhat membranaceous, campanulate then convex, umbonate, quite smooth, pellucidly striate to the umbo when moist, even when dry. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, fistulose, exactly equal, firm and rigid, but often flexuous, *ferruginous*, darker and becoming fuscous towards the base, variegated *up to the middle with white floccose scales, above* the middle wholly *naked*, even, paler. **Gills** adnate, *ventricose*, thin, *somewhat distant, distinct*, at length plane, pale yellowish-ferruginous. Naucoria.

Allied to *Galeræ;* the margin of the pileus is almost straight and adpressed to the stem. The gills are so ventricose that when casually inspected they appear as if free. The partial veil is not evident; but the scales on the stem are without doubt the fragments of a universal veil.

Under larch. Coed Coch, 1878. Oct.

Spores pruniform, 10–12 mk. *Q.* Name—*badius*, bay-brown; *pes*, a foot. From the colour of the stem. A. badipus *Pers. Syn. p.* 318? *Fr. Monogr.* i. p. 374. *Hym. Eur. p.* 259. *Icon. t.* 123. *f.* 3. *B. & Br. n.* 1764. *C. Illust. t.* 491. *a.*

II.—Phæoti. *Pileus naked, &c.*

* Pediadei, *growing in fields and plains.*

635. A. vervacti Fr.—**Pileus** *light yellow* or pallid yellow, fleshy, convex, then plane, obtuse, soft, even, smooth, *slightly viscid*, shining when dry; flesh white. **Stem** 2.5 cent. (1 in.) long, 4–6 mm. (2–3 lin.) thick, cartilaginous, *rigid, stuffed then hollow upwards*, equally *attenuated*, even, smooth, *not rooted, whitish.* **Gills** adnate with a decurrent tooth, crowded, 6 mm. (3 lin.) broad, exactly plane, *at first pallid*, at length ferruginous-fuscous.

Veil quite obsolete. The stem is rather thick, attenuated sometimes upwards, sometimes downwards. Gills at length ventricose.

In meadows, gardens, &c. Uncommon. Sept.–Nov.

Name—*vervactum*, fallow ground. *Fr. Monogr.* i. *p.* 376. *Hym. Eur. p.* 260. *Berk. Out. p.* 160. *C. Hbk. n.* 364. A. arvalis *Batt. t.* 13. *F.*

636. A. triscopus Fr.—**Pileus** 4–10 mm. (2–5 lin.) broad, *bay-brown* when moist, *ochraceous when dry*, always opaque, slightly fleshy, at first hemispherical, obtuse, then convexo-plane, with a prominent umbo, even, smooth. **Stem** 1–2.5 cent. (½–1 in.) and more long, stuffed then delicately fistulose, filiform, equal, curved or flexuous, smooth, opaque, ferruginous, umber at the base. **Gills** adnate, plane, thin, *somewhat crowded, dark ferruginous.*

Spores dark ferruginous. Stature that of *A. inquilinus*, colour that of *A. sparteus*, to which it is somewhat like, but the stem is not tense and straight

Naucoria.

as in that species. It varies very small, very thin, with the pileus 4 mm. (2 lin.) broad, pellucid-striate, and with distant gills.

On old wood in a cellar. Kilburn, 1882.

Name—θρίξ, hair; πούς, a foot. From the hair-like stem. *Fr. Monogr.* i. *p.* 375. *Hym. Eur. p.* 259. *Grevillea, vol.* xiii. *p.* 59. *C. Illust. Pl.* 458. *b.*

637. A. pediades Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *yellow* or pale yellowish-ochraceous then becoming pale, slightly fleshy, convex then plane, obtuse, even, dry, smooth, at length rimoso-rivulose, but always without striæ; flesh white. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, *stuffed with a pith, somewhat flexuous*, tough, equal, but with a small bulb at the base, *slightly silky becoming even, yellowish.* **Gills** adnexed, 4 mm. (2 lin.) broad, at first crowded, at length somewhat distant, *somewhat fuscous then dingy cinnamon.*

Spores fuscous-ferruginous. The small bulb at the base is formed by the mycelium being rolled together. Stature variable.

In pastures, roadsides, &c. Frequent. July–Nov.

Name—πεδίον, a plain. *Fr. Monogr.* i. *p.* 376. *Hym. Eur. p.* 260. *Berk. Out. p.* 160. *C. Hbk. n.* 365. *Illust. Pl.* 492. *S. Mycol. Scot. n.* 337. A. arvalis *Letell. t.* 675.—B. A. pusillus *Schæff. t.* 203.

638. A. semi-orbicularis Bull.—**Pileus** 2.5–5 cent. (1–2 in.) broad, *tawny-ferruginous* then ochraceous, slightly fleshy, convexo-expanded, obtuse, dry, even, smooth, corrugated when dry. **Stem** 7.5–10 cent. (3–4 in.) long, scarcely beyond 2 mm. (1 lin.) thick, cartilaginous, tough, slender, tense and straight, equal, even, smooth, becoming pallid *ferruginous, shining*, often darker at the base, *internally containing a separate fistulose tube* which is easily broken up into fibrils. **Gills** adnate, rarely sinuate behind, almost 6 mm. (3 lin.) *broad*, and many times broader than the flesh of the pileus, crowded, *pallid then ferruginous.*

In pastures, roadsides, &c. Common. June–Oct.

The pileus is slightly viscid when fresh and moist. Easily distinguished from *A. semiglobatus*, with which it has been confounded, by the stem. Spores 14×8 mk. *W.G.S.* Name—*semi*, half; *orbicularis*, round. *Bull. t.* 422. *f.* 1. *Fr. Monogr.* i. *p.* 376. *Hym. Eur. p.* 260. *Berk. Out. p.* 160. *t.* 9. *f.* 4. *C. Hbk. n.* 366. *Illust. Pl.* 493. *a. S. Mycol. Scot. n.* 338.

639. A. tabacinus Dec.—**Pileus** 6–18 mm. (3–9 lin.) broad, *umber then bay-brown-cinnamon*, very moist, dingy tan when dry, slightly fleshy, plane and very obtuse at the disc, *involute at the margin*, even, smooth. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick and when shorter more, *hollow*, attenuated downwards

when shorter, somewhat flexuous, smooth, naked, darker and *fuscous* at the base. **Gills** adnate, *crowded*, plane, sometimes linear, sometimes ovate, at length *bay-brown-cinnamon*. Naucoria.

Cæspitose. When fresh wholly bay-brown-fuscous, but hygrophanous. Veil commonly none, but a woven veil appendiculate to the margin of the pileus has been observed. Habit of *A. cucumis*.

Among short grass. Kew Gardens.

Name—*tabacum;* of the colour of tobacco. *Dec. Fl. fr.* 5. *p.* 46? *Fr. Monogr.* i. *p.* 377. *Hym. Eur. p.* 261. *C. Illust. Pl.* 493. *b*.

** Scorpioidei, *growing in moist, uncultivated, wooded places.*

640. A. tenax Fr.—**Pileus** scarcely reaching 2.5 cent. (1 in.) broad, varying between cinnamon and an olivaceous or somewhat fuscous yellowish, dirty, becoming pale when dry, somewhat fleshy, but thin, so that the gills at length shine through, hemispherical then expanded, obtusely umbonate, smooth, even, viscid especially when young. **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick, stuffed then hollow, equal, round, *adpressedly and becoming even-fibrillose*, so that at first sight it seems *slightly striate* and smooth, dingy pallid (*light yellowish*) then *becoming fuscous* or becoming olive. **Gills** adnate, afterwards somewhat rounded and somewhat separating, broad, plane, almost distant, sometimes triangular, sometimes oblong, *whitish-fuscous*, becoming ferruginous, *whitish and quite entire at the edge*.

Veil in the form of a cortina, *fugacious*. Pileus sometimes slightly wrinkled. Readily distinguished from *A. myosotis* by the *hygrophanous colour*, &c.

In a ditch among sticks. Welford, Norths., 1868, &c. Oct.

Spores ovate, even, *B. & Br.;* 5×4 mk. *W.P.* Name—*tenax*, tough. *Fr. Monogr.* i. *p.* 378. *Hym. Eur. p.* 261. *B. & Br. n.* 1248, 1872.

641. A. myosotis Fr.—**Pileus** about 2.5 cent. (1 in.) broad, *olivaceous or fuscous-green* then becoming pale, becoming light yellow, disc darker, fleshy, convex then plane, somewhat umbonate when flattened, even, smooth, *with a viscous pellicle;* flesh thin, pallid. **Stem** 7.5–15 cent. (3–6 in.) *long*, 2–6 mm. (1–3 lin.) thick, fistulose, slightly firm, equal, often flexuous, *sometimes fibrillose* (the fibrils here and there blackish), *sometimes scaly*, pallid then becoming fuscous, white-pruinose at the apex. Cortina manifest, but fugacious, fringing the margin. **Gills** adnate, decurrent with a tooth, somewhat distant, broad, pallid umber-olivaceous then at length *brown-ferruginous, serrated and whitish at the edge*.

The colours are very peculiar. Very distinguished and easily recognised, but there are many forms departing from the type.

Naucoria.

In moist places. Scarborough. Aug.

Name—from combination of colours in *Myosotis*. *Fr. Monogr.* i. *p.* 378. *Hym. Eur. p.* 261. *Icon. t.* 125. *f.* 1., *C. Illust. Pl.* 494.

642. A. temulentus Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *ferruginous when moist*, ochraceous when dry, hygrophanous, *somewhat membranaceous*, somewhat fleshy at the disc, campanulate then convex, somewhat umbonate, smooth, striate at the circumference when moist, even when dry. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, *fistulose with a pith, tough*, equal, *flexuous* or undulated on the surface, even, *polished, smooth, pulverulent at the apex*, white-villous at the base. **Gills** adnate, somewhat distant, *attenuated in front, at first lurid-ferruginous, at length umber.*

The pileus is never depressed, nor has it a distinct pellicle. Veil none. Slender. Not allied to *A. tenax*, &c., and inclining towards *Galeræ*.

In open wood. Glamis, &c. Aug.–Sept.

Name—*temulentus*, drunken. Full of moisture. *Fr. Monogr.* i. *p.* 379. *Hym. Eur. p.* 262. *Icon. t.* 125. *f.* 2. *B. & Br. n.* 1530. *S. Mycol. Scot. n.* 339. *C. Illust. Pl.* 459. *Batsch t.* 7. *fig. d.*

III.—Lepidoti. (Typical Naucoriæ.) Pileus flocculose, &c.

* *Squamules of pileus superficial, separating.*

643. A. sobrius Fr.—**Pileus** 6–10 mm. (3–5 lin.) broad, *honey-colour*, disc darker, becoming pale, slightly fleshy, convex, obtuse, well formed, smooth, even, *moist*, scarcely viscid, very slightly silky, *veil pruinose, fugacious*. **Stem** 4 cent. (1½ in.) long, 2 mm. (1 lin.) thick, fistulose, slightly firm, moderately tough, straight or slightly bent, equal, pallid upwards, *ferruginous-fuscous downwards*, occasionally sprinkled with slightly silky whitish spots (from the veil). **Gills** broader behind, *obtusely adnate*, somewhat distant, plane, 3 mm. (1½ lin.) broad, paler than the pileus.

The pileus is *not bibulous* and hygrophanous. Its habit is that of *A. furfuraceus*, but it differs by many marks, and especially by the *veil* being so obsoletely squamulose, that *traces of it appear only in the younger state* (on the margin of the pileus and stem), wherefore it is rather to be looked for among *Gymnoti*.

On the ground in mixed woods. Rare. Sept.–Oct.

In 'Hym. Eur.' Fries describes the gills as *crowded*, as "saffron-yellow-pallid" and "whitish at the edge." In my specimens they were scarcely crowded. The edge is whitish in var. *dispersus*. Name—*sobrius*, sober. Not bibulous; not imbibing moisture. *Fr. Monogr.* i. *p.* 382. *Hym. Eur. p.* 263. *B. & Br. n.* 912. *C. Hbk. n.* 367. *S. Mycol. Scot. n.* 340.

Var. dispersus B. & Br.—**Pileus** 6–8 mm. (3–4 lin.) broad, ochraceous, convex, delicately marked with small dots, margin furfuraceous. **Stem** 18 mm.–2.5 cent. (¾–1 in.) long, 2 mm. (1 lin.) thick, fistulose, thickened upwards or equal, furfuraceous; ring appendiculate. **Gills** adnate, plane, pallid, white at the margin. Naucoria

On lawn. July. Name—*dispersus*, scattered. From its habit of growth. *B. & Br. n.* 1348. *S. Mycol. Scot. n.* 340. A. dispersus *Pers.*

** *Pileus with innate squamules.*

644. A. erinaceus Fr.—**Pileus** 12 mm. (½ in.) broad, *ferruginous-umber*, slightly fleshy, convex, *umbilicate*, *scaly* and prickly with very densely crowded, *fasciculate* flocci, squarrose, at the first involute at the margin and furnished with a cortina. **Stem** about 12 mm. (½ in.) long, not 2 mm. (1 lin.) thick, fistulose, tough, equal, incurved, *everywhere shaggy with strigose hairs, umber-ferruginous.* **Gills** adnate, not much crowded, rather broad, *quite entire*, of the same colour as the pileus.

The stem is adnate with the epidermis of the branches by a white, dilated, floccose base, not erumpent. Solitary, arid, persistent like *Marasmii.*

On dead branches. Rare. Aug.–March.

Name—*erinaceus*, hedgehog. Bristly. *Fr. Monogr.* i. *p.* 384. *Hym. Eur. p.* 263. *Berk. Out. p.* 161. *C. Hbk. n.* 370. *Illust. Pl.* 480. *a. S. Mycol. Scot. n.* 341. *Sow. t.* 417. A. adpressus *Brig. t.* 41. *f.* 1-5. A. aridus *Pers. Batt. t.* 28. *f. K.*

645. A. siparius Fr. *Wholly rufous-ferruginous.*—**Pileus** 6–10 mm. (3–5 lin.) broad, slightly fleshy, convex then plane, obtuse, not umbilicate, densely *villoso-squamulose;* flesh thick, soft, not arid. **Stem** 1–2.5 cent. (½–1 in.) long, 2 mm. (1 lin.) thick, *stuffed*, somewhat soft, equal, tense and straight, *almost everywhere covered over with scaly villous down* which takes the form of a veil sheathing the lower part, the apex being destitute of this covering and pruinose. **Gills** adnate, somewhat distant, broad, quaternate, edge *flocculose.*

In the stem there is a very obsolete small tube, not visible to the naked eye. The floccoso-scaly covering is a universal veil, as in *A. granulosus*, and the margin of the pileus is appendiculate with fragments of the veil. Analogous with *A. erinaceus.* The flesh is thicker and softer than in that species.

On wood, soil, cases of caddis-worm, &c. Rare. July.

Found by Fries on withered stems of *Aspidium felix mas.* Name—*siparius*, a curtain. From the covering formed by the veil. *Fr. Monogr.* i. *p.* 385. *Hym. Eur. p.* 263. *Icon. t.* 126. *f.* 2. *Berk. Out. p.* 161. *C. Hbk. n.* 371.

Naucoria. *Illust. Pl.* 480. *b. S. Mycol. Scot. n.* 342. A. vestitus *Chev. Par. p.* 215. *t.* 6. *f.* 9 (short-stemmed, young).

646. A. conspersus Pers.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *bay-brown- or rufous-cinnamon* when fresh, ochraceous when dry, very *hygrophanous*, slightly fleshy, campanulato-convex then flattened, obtuse, at first rather even, soon *furfuraceous and broken up into small scales*. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, fistulose, equal, *fibrillose*, cinnamon, ochraceous when dry, *squamuloso-furfuraceous at the apex*. **Gills** at first adnate, then emarginato-*separating*, *crowded*, sometimes linear, sometimes ventricose, dark cinnamon; edge entire, of the same colour.

The gills retain their dark colour in every stage of growth. Gregarious, *fragile*. In boggy places a remarkable variety occurs twice or thrice as large in all its parts, with the stem long, twisted, umber, white-tomentose at the base, with the pileus umbonate, 4 cent. (1½ in.) broad, fuscous-rufescent, and with the gills broader.

On the ground and among leaves in woods. Uncommon. Sept.–Oct.

Name—*conspersus*, besprinkled. From the scales. *Pers. Ic. descr. t.* 12. *f.* 3. *Fr. Monogr.* i. *p.* 383. *Hym. Eur. p.* 264. *B. & Br. n.* 911. *C. Hbk. n.* 369. *S. Mycol. Scot. n.* 343. *Krombh. t.* 3. *f.* 12.

647. A. escharoides Fr.—**Pileus** 12 mm. (½ in.) broad, tan then whitish, disc at length becoming fuscous, slightly fleshy, soft, conico-convex soon flattened, obtuse, without striæ, *squamuloso-furfuraceous;* flesh white. **Stem** 2.5–5 cent. (1–2 in.) and more long, 2 mm. (1 lin.) and more thick, *fragile*, *fistulose*, equal, flexuous, *adpressedly fibrillose* (becoming smooth), pallid, at length becoming fuscous, somewhat pruinose at the apex. **Gills** at first adfixed, even decurrent with a tooth, at length emarginate, somewhat free, *ventricose*, broad, *lax*, *pallid-tan*, at length somewhat cinnamon with the spores.

Very changeable, but very easily distinguished from all neighbouring species by the *primitive colour of all its parts being pallid*. Gregarious, somewhat cæspitose.

On bare damp ground. Apethorpe. Aug.

Exactly the plant of Schæffer t. 226. Pileus campanulate, obtuse, slightly fleshy, umbonate or umbilicate, sometimes plane, hygrophanous, innato-squamulose, often venulose, tawny at length pallid; veil white, evanescent; stem flexuous, nearly equal, clothed with white fibrils, pale, ringless, fistulose; gills broad, bright cinnamon, distant, fixed, acute behind, at length seceding. Brittle, *B. & Br.* Spores of a pure ochre, not peroxidate, 16–17 mk. *B. & Br.* Name—*eschara*, scab. From the scabby or scurfy scales. *Fr. Monogr.* i. *p.* 383. *Hym. Eur. p.* 264. *B. & Br. n.* 1122. *C. Hbk. n.* 368. *Schæff. t.* 226. *var.*

*** *Pileus destitute of scales, silky or sprinkled with atoms.* Naucoria.

648. A. carpophilus Fr.—**Pileus** 4–6 mm. (2–3 lin.) broad, somewhat tan when moist, *pallid*, even whitish *when dry*, hygrophanous, somewhat membranaceous, convex, obtuse, *furfurate with shining atoms*, sometimes at the same time floccoso-squamulose. **Stem** short, scarcely 2.5 cent. (1 in.) long, *filiform* and sometimes capillary, stuffed or obsoletely fistulose, *pallid, at first furfuraceous*, then naked. **Gills** rounded-adnexed, somewhat free, *ventricose*, broad, somewhat distant, crenulated, at first pallid, at length *ochraceous*.

Allied to *A. furfuraceus*.

On beech mast and leaves. Rare. Sept.–Oct.

In letterpress to 'Icones' Fries says the pileus is 2 mm. (1 lin.) rarely more broad. Name—καρπός, fruit; φίλος, loving. From its usual habitat on fruit of beech, &c. *Fr. Monogr.* i. *p.* 386. *Hym. Eur. p.* 265. *Icon. t.* 126. *f.* 4. *B. & Br. n.* 910. *C. Hbk. n.* 372. *S. Mycol. Scot. n.* 344.

649. A. graminicola Nees.—**Pileus** 6 mm. (3 lin.) broad, fuscous then fawn-ochraceous, somewhat membranaceous, convex, *papillate, shaggy-tomentose*. **Stem** slender, *tough, hirsute*, becoming fuscous. **Gills** slightly adnexed, somewhat distant, pallid-ochraceous.

Remarkable. Under a lens the pileus is covered with *strigose hairs*.

On stalks of grass. Glamis, 1874. Oct.

The specimens which I submitted to Berkeley have confirmed the opinion that it is a true *Naucoria*, a point which was doubtful when 'Hym. Eur.' was published. Name—*gramen*, grass; *colo*, to inhabit. Growing on grasses. *Nees. Syst. f.* 186. *Fr. Hym. Eur. p.* 265. *B. & Br. n.* 1532. *S. Mycol. Scot. n.* 345. *Krombh. t.* 3. *f.* 13 (handsomer, stem branched).

Subgenus XXIV. **PLUTEOLUS** (from *Pluteus*, a subgenus of *Hyporhodii*). Pileus slightly fleshy, viscid, conical or campanulate then expanded, the margin *at the first straight, adpressed to the stem*. Stem somewhat cartilaginous, *separate from the hymenophore*. Gills rounded-free, wholly like those of Plutei. *Fr. Hym. Eur. p.* 266. Pluteolus.

Analogous with *Plutei*.

650. A. reticulatus Pers.—**Pileus** 5 cent. (2 in.) broad, violaceous, varying fuscous and livid grey, *slightly fleshy*, campanulate then expanded, umbonate when full grown, somewhat repand,

Pluteolus. at first *viscous and covered over with a network of anastomosing veins*, when full grown more even or slightly pitted, slightly striate at the margin. **Stem** 5 cent. (2 in.) long, 4 mm. (2 lin.) and more thick, *hollow*, equal, fragile (but the cuticle becoming polished-even or cartilaginous), *fibrillose, white, mealy at the apex.* **Gills** *planely free, ventricose*, crowded, arid, *dingy cinnamon.*

XXVI. Agaricus (Pluteolus) reticulatus. One-half natural size.

Spores *dark ferruginous.*

On dead wood. Rare.

In the young state the pileus is of a delicate bistre, and it is only in age that it assumes a violet tinge, apparently from the colour of the spores being partly seen through the flesh. Care must be taken to distinguish it from such species as *A. phlebophorus, M. J. B.* Name—*rete*, a net. From the network of veins on the pileus. *Pers. Ic. descr. t.* 4. *f.* 4-6. *Fr. Monogr.* i. *p.* 387. *Hym. Eur. p.* 266. *Berk. Out. p.* 162. *t.* 9. *f.* 5. *C. Hbk. n.* 373. *Illust. Pl.* 495.

651. A. aleuriatus Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, bluish-grey, livid, rose-colour, somewhat membranaceous, conical then convexo-plane, viscous, *striate.* **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, fistulose, incurved, *pulverulent*, white. **Gills** free, ventricose, *saffron-ochraceous.*

In structure and nature it is very closely allied to *A. reticulatus*, and does not differ from it except in the stature of all its parts being smaller and thinner, in the fistulose incurved stem being everywhere white-pulverulent, in the pileus being somewhat membranaceous, *striate but by no means wrinkled*, and in the *gills being saffron-ochraceous and the spores bright ochraceous.*

On rotten sticks, &c. Coed Coch. Oct.

Name—ἄλευρον, flour. Dusted over. From the pulverulent stem. *Fr. Monogr.* i. *p.* 388. *Hym. Eur. p.* 266. *Icon. t.* 126. *f.* 5. *B. & Br. n.* 1123. *C. Hbk. n.* 374.

Galera. *Subgenus XXV.* **GALERA** (*galerus*, a cap). Fr. Syst. Myc. i. p. 264. Veil none or fibrillose. Stem *somewhat cartilaginous, continuous with the hymenophore*, tubular (tube somewhat hollow). Pileus more or less membranaceous, conical or oval then expanded, striate, *margin at the first straight, adpressed to the stem. Gills not decurrent. Slender, fragile.*

The typical character differs manifestly from Naucoriæ, but in one or two species of the Naucoriæ the margin is scarcely distinctly incurved, though from the habit and other marks these may be reckoned among the Naucoriæ, such as *A. cucumis*, *cidaris*, and *badipes*. *Fr. Hym. Eur. p.* 266. Galera.

Galera corresponds with *Mycena* and *Nolanea*. Spores ochrey-ferruginous. Mostly autumnal, and growing on the ground.

XXVII. Agaricus (Galera) tener. One-third natural size.

* Conocephali (κῶνος, cone; κεφαλή, head). *Pileus conico-campanulate, hygrophanous, rather even, when dry dotted with soft particles; stem tense and straight; gills ascending, inserted in the top of the cone, somewhat crowded.* Veil none.

** Bryogeni (βρύον, moss; γενεά, birth). *Pileus membranaceous, campanulate, striate, smooth, hygrophanous, even when dry, opaque, very slightly silky; stem thin, lax, flexile; gills broadly and planely adnate, broad, somewhat denticulate.* Slender, growing among moss, cortina very fugacious.

*** Eriodermei (ἔριον, wool; δέρμα, skin). *Pileus somewhat membranaceous, veil manifest, superficial, separating, at the first (chiefly round the margin) silky and squamulose.* Compare Tubaria, *A. paludosus*, &c., with decurrent gills.

* Conocephali. *Pileus conico-campanulate*, &c.

652. A. lateritius Fr.—**Pileus** 2.5 cent. (1 in.) high, *pale yellowish when moist*, ochraceous when dry, hygrophanous, membranaceous, *acorn-shaped then campanulate*, obtuse, even, smooth, slightly and densely striate at the margin when moist. **Stem** 7.5 cent. (3 in.) and more long, 2 mm. (1 lin.) thick, fistulose, attenuated upwards, tense and straight, even, but *white-pruinose*, *whitish*. **Gills** *adnexed* in the top of the cone, hence appearing as if free, ascending, very narrow, *crowded*, *cinnamon*.

Gills almost adpressed to the stem, almost pendulous. Remarkably analogous with *A. ovalis*, but easily distinguished by the *linear gills* and the absence of a veil; very fragile.

In rich pastures. Rare. Sept.

Spores 11×5 mk. *W.P.* Name—*later*, a brick. Brick-red. *Fr. Monogr.* i. *p.* 390. *Hym. Eur. p.* 267. *Icon. t.* 127. *f.* 2. *Berk. Out. p.* 162. *C. Hbk. n.* 376. *Illust. Pl.* 460. *S. Mycol. Scot. n.* 346. *Fl. Dan. t.* 1846, *f.* 2. *Batt. t.* 28. *T.*

653. A. tener Schæff.—**Pileus** 12 mm. (½ in.) and more high,

Galera. *of one colour, pallid ferruginous when damp*, becoming pale when dry, hygrophanous, somewhat membranaceous, *conico-campanulate*, commonly smooth, slightly striate when moist, wholly even when dry, opaque, somewhat atomate. **Stem** commonly 7.5-10 cent. (3–4 in.) long, 2 mm. (1 lin.) thick, fistulose, fragile, equal or when larger thickened downwards, *tense and straight, somewhat shining*, striate upwards, of the same colour as the pileus when moist, and like it becoming pale when dry. **Gills** *adnate in the top of the cone*, appearing *as if free*, ascending, somewhat crowded, *linear, cinnamon.*

The gills though linear are conspicuously broader than those of *A. lateritius.* Very changeable, larger and smaller. A notable form is *A. pilosellus* P. (on rotten wood), pileus and stem *when moist* pubescent with short erect tender hairs. Var. growing in drier weather : A. gilvo-brunneus *Fungh. t.* 6. *f.* 12.

Pastures and grassy places in woods. Common. May–Nov.

Spores ellipsoid, 14–21 × 8–12 mk. *K.*; 14–8 mk. *W.G.S.*; 14 × 7 mk. *W.P.* Name—*tener*, tender. *Schæff. t.* 70. *f.* 6–8. *Fr. Monogr.* i. *p.* 391. *Hym. Eur. p.* 267. *Berk. Out. p.* 162. *B. & Br. n.* 2005*. *C. Hbk. n.* 377. *Illust. Pl.* 461. *S. Mycol. Scot. n.* 347. *Sow. t.* 33. *f.* 1. *Bull. t.* 535. *f.* 1. *Bolt.* 66. *f.* 2. *Brigant. t.* 19. *f.* 5-10.

654. A. ovalis Fr.—**Pileus** 2.5 cent. (1 in.) high and broad, *ferruginous when moist*, becoming yellow when dry, somewhat membranaceous, *ovali-campanulate*, margin straight and adpressed to the stem, obtuse, even. **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick, fistulose, equal, *tense and straight, slightly striate, of the same colour as the pileus.* The partial veil fugacious, but at the first here and there in the form of a ring. **Gills** *somewhat free, very ventricose, very broad, crowded*, ferruginous, somewhat deliquescent.

Large, very fragile, with the nature of the *Pratellæ.*

On dung and among grass. Uncommon. Sept.–Oct.

Name—*ovalis*, oval. *Fr. Monogr.* i. *p.* 389. *Hym. Eur. p.* 268. *Berk. Out. p.* 162. *C. Hbk. n.* 375. *Illust. Pl.* 462. *S. Mycol. Scot. n.* 348. A. campanulatus *Bull. t.* 552. *f.* 1.

655. A. antipus Lasch.—**Pileus** 1–2.5 cent. (½–1 in.) broad, deep ochraceous when moist, pale almost white when dry, hygrophanous, campanulate then expanded, with a slightly fleshy prominent disc, but not umbonate, even, smooth ; flesh white when dry. **Stem** curt, 2.5 cent. (1 in.) long, paler than the pileus, tense and straight, striate, *mealy, bulbous at the base*, with a long, tortuous, smooth, tail-like root. **Gills** almost free, attenuated behind, crowded, semi-lanceolate, light yellowish-ochraceous then at length cinnamon.

Single, slightly rigid. Spores rubiginous. Galera.

On soil in gardens, and on dung. Rare. March.

Spores 15–18 × 8 mk. *B. & Br.* Name—*ἀντί*, opposite; *πούς*, a foot. Apparently of the root as compared with the stem. *Lasch n.* 401. *Fr. Hym. Eur. p.* 268. *Monogr.* ii. *p.* 303. *Icon. t.* 128. *f.* 2. *B. & Br. n.* 1251. *C. Hbk. n.* 378. *Illust. Pl.* 463. *a.*

656. A. confertus Bolt.—**Pileus** fuscous, fuscous-ochraceous when dry, hygrophanous, somewhat membranaceous, acutely conico-campanulate, striate, smooth. **Stem** slender, silky, shining, *naked, the equal base very deeply rooted.* **Gills** slightly adnexed, somewhat distant, white then becoming fuscous-ochraceous.

Spores fuscous-ferruginous. Very crowded, somewhat cæspitose, very fragile.

In hothouses, &c. Halifax.

In large specimens it is about 2.5 cent. (1 in.) in diameter. *Bolt.* Name—*confertus*, crowded together. *Bolt. t.* 18. *Fr. Hym. Eur. p.* 268. *Berk. Out. p.* 163. *C. Hbk. n.* 379. *Illust. Pl.* 463. *b.* after Bolton.

657. A. sparteus Fr. Watery ferruginous or cinnamon, becoming pale.—**Pileus** 12 mm. (½ in.) broad, hygrophanous, tan when dry, membranaceous, campanulato-convex then expanded, obtuse, striate, smooth. **Stem** 2.5–5 cent. (1–2 in.) long, not 2 mm. (1 lin.) thick, *delicately fistulose*, tense and straight but flexile, *polished, smooth*, darker somewhat date-brown at the base. **Gills** *wholly adnate*, somewhat linear, crowded, at length *plane*, darker than the pileus.

Gregarious, very tender. It holds an intermediate place between this and the following group, approaching nearest to species in this on account of the obtuse pileus, crowded gills, and tense and straight stem. Pileus pellucid-striate when moist.

Among moss. Rare. Sept.

Name—*spartum*, a grass, *esparto*. Probably from the stem. *Fr. Monogr.* i. *p.* 392. *Hym. Eur. p.* 269. *Berk. Out. p.* 163. *C. Hbk. n.* 380. *Illust. Pl.* 481. *a. S. Mycol. Scot. n.* 349. A. atrorufus *Bolt. t.* 51. *f.* 1.

658. A. pygmæo-affinis Fr.—**Pileus** 2.5 cent. (1 in.) and more broad, *somewhat fuscous or honey-colour then tan*, fleshy-membranaceous, campanulate then flattened, *dry*, without striæ, but delicately and *under a lens conspicuously reticulato-wrinkled*, almost rugged. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, fistulose, fragile, perfectly equal, shining white, obsoletely pruinose at the apex only when young. Veil scarcely any. **Gills** slightly reaching the stem, *almost free, crowded, thin*, quite entire, when young clay-ochraceous, when full grown ferruginous-ochraceous.

Galera. Like *A. pygmæus*, but differing in the elongated stem, &c.

In a cucumber-house. West Lynn, &c. Nov.

Fries gives as its habitat grassy places in walks shaded by trees. Spores 8×4 mk. *W.P.* Name—*affinis*, allied to *A. pygmæus*. *Fr. Monogr.* i. *p.* 389. *Hym. Eur. p.* 269. *Icon. t.* 128. *f.* 1. *C. Illust. Pl.* 481. *b.*

** Bryogeni. *Pileus membranaceous, campanulate, &c.*

659. A. vittæformis Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *date-brown* when moist, membranaceous, conical then hemispherical, obtuse, *even at the disc*, striate towards the margin, smooth. **Stem** 4–7.5 cent. (1½–3 in.) long, 1–2 mm. (½–1 lin.) thick, fistulose, equal, *somewhat straight*, but not tense and straight, smooth or sometimes pubescent, slightly striate under a lens, *opaque, rubiginous*. Veil scarcely conspicuous. **Gills** adnate, broader at the middle, in the form of a segment when larger, somewhat ascending, somewhat distant, at first *watery-cinnamon*, at length ferruginous.

A smaller form, corresponding with the figure of Schæffer, has the pileus papillate, the gills linear, and the stem paler.

Among moss and grass. Perth, &c. Nov.

Name—*vitta*, a chaplet; *forma*, form. *Fr. Monogr.* i. *p.* 393. *Hym. Eur. p.* 269. *S. Mycol. Scot. n.* 350. *C. Illust. Pl.* 464. *a.* A. campanulatus *Schæff. t.* 63. *f.* 4-6 (stem light yellowish).

660. A. rubiginosus Pers.—**Pileus** 6–8 mm. (3–4 lin.) broad, cinnamon or honey colour when moist, tan when dry, hygrophanous, membranaceous, campanulate, obtuse, *striate throughout*, smooth, even when dry. **Stem** 5 cent. (2 in.) long, *filiform*, fistulose, tough, flaccid, smooth, *shining*, *bay-brown* or dark ferruginous. **Gills** adnate, ascending, rather broad, but almost linear, distant, ochraceous.

It varies with the stem pubescent under a lens. Among the taller mosses the stem is elongated, and more tense and straight. The gills do not become pale. Intermediate between *A. vittæformis* and *A. hypnorum*.

Among moss. Kew Gardens, 1866. Sept.–Oct.

Name—*rubigo*, rust. From the colour of the stem. *Pers. Syn. p.* 385. *Fr. Monogr.* i. *p.* 394. *Hym. Eur. p.* 269. *Icon. t.* 128. *f.* 3. *B. & Br. n.* 1252. *C. Illust. Pl.* 464. *b. minor*. *Mich. Gen. t.* 75. *f.* 8.

661. A. hypnorum Batsch.—**Pileus** 6–12 mm. (3–6 lin.) broad, ochraceous-pale-yellowish or watery-cinnamon, tan when dry-hygrophanous, membranaceous, campanulato-convex, most frequently *papillate at the umbo*, but varying obtuse, *lineato-striate*

except at the disc, smooth. **Stem** about 5 cent. (2 in.) long, fis- Galera.
tulose, *flexuous*, *lax*, smooth, but *pruinose at the apex*, sometimes rigid and slightly tawny, sometimes filiform, almost capillary and lemon-yellow or ochraceous. **Gills** adnate, *broad*, *ventricose*, *distant*, commonly connected with veins, cinnamon-tawny, flocculose at the edge.

Pileus more fleshy at the disc. Small, thin, assuming many forms.

Among moss. Common. July–Nov.

Requires to be cautiously distinguished from small *A. melinoides*. Attend to the difference of the margin, *M. J.B.* In 'Elenchus' (p. 35) Fries thus defines the differences between *A. tener*, *A. melinoides* and *A. hypnorum*:—1) *A. tener*, stem tense and straight, pileus conical, gills linear and ascending; 2) *A. melinoides*, stem somewhat tense and straight, unequal, pruinate, paler, pileus fleshy-membranaceous, gills triangular; 3) *A. hypnorum*, stem more flexile and pruinate, pileus campanulate and somewhat papillate, gills distant and broader. Name—*hypnum*, a moss. Growing among mosses. *Batsch f.* 96. *Fr. Monogr.* i. *p.* 394. *Hym. Eur. p.* 270. *Berk. Out. p.* 163. *C. Hbk. n.* 382. *Illust. Pl.* 465. *S. Mycol. Scot. n.* 351. *Sow. t.* 282. *Bull. t.* 560. *f.* 1. *C—E.*

* **A. sphagnorum** Pers.—*Twice or thrice as large*, yellow-ochraceous; pileus as much as 2.5 cent. (1 in.) broad, disc broad; stem longer, 7.5–12.5 cent. (3–5 in.), and firmer, fibrillose, tawny.

In marshes among Sphagna. Name—*sphagnum*, bog-moss. Pers.—*Fr. Monogr.* i. *p.* 394. *Hym. Eur. p.* 270. *B. & Br. n.* 1008. *C. Hbk. n.* 383. *S. Mycol. Scot. n.* 351. *Bull. t.* 560. *f. H.*

662. A. mniophilus Lasch.—**Pileus** 12 mm. (½ in.) and more broad, *fuscous-light-yellowish*, almost clay-colour when dry, membranaceous, campanulate, almost papillate, striate, disc even. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, equal, flexile, *fibrillose*, *yellow*, *mealy at the apex*, floccose at the base. **Gills** obtusely adnate, plano-ascending, broad, somewhat distant, *light yellowish*-ochraceous, in some becoming fuscous-clay-colour.

Scarcely different in its essential marks from *A. hypnorum*.

Among Mnium. Rannoch, &c. Sept.–Oct.

Name—μνίον, moss; φίλος, loving. *Lasch n.* 410. *Fr. Hym. Eur. p.* 270. *Monogr.* i. *p.* 395. *S. Mycol. Scot. n.* 352. *C. Illust. Pl.* 496. *a. Schæff. t.* 63. excluding *figs.* 4–6. *Mich. t.* 80. *f.* 8.

663. A. minutus Quel.—**Pileus** 2–3 mm. (1–1½ lin.) broad, chamois-bistre, membranaceous, campanulate, striate. **Stem** 1 cent. (½ in.) long, somewhat capillary, smooth, tawny, shining, base webbed-spreading and white. **Gills** adnato-arcuate, as broad

Galera.

as long, moderately crowded, yellowish then clay-colour with the edge whitish.

Among moss. Wrotham, Kent, &c. Sept.–Oct.

Spores pruniform, 6 mk. Name—*minutus*, very small. *Quel.* iii. *p.* 10. *t.* 1. *f.* 5. *B. & Br. n.* 1656*. *C. Illust. Pl.* 466. *b. S. Mycol. Scot. Supp. Scot. Nat.* 1885, p. 24.

*** Eriodermei. *Pileus somewhat membranaceous, &c.*

664. A. ravidus Fr.—**Pileus** 1–4 cent. (½–1½ in.) broad, of a peculiar greyish colour, fleshy-membranaceous, at first campanulato-hemispherical, even, moist, almost *slightly viscid*, but very hygrophanous, and hence somewhat silky when dry, when young appendiculato-toothed with the white veil. **Stem** 4–7.5 cent. (1½–3 in.) long, 2 mm. (1 lin.) thick, fistulose, very fragile, ascending or *twisted*, equal, *pallid* (becoming somewhat yellow) but *silvery-shining*, fibrilloso-striate, somewhat pruinose at the apex. **Gills** *somewhat free, broad, ventricose, distant*, ochraceous-saffron or pale yellowish.

Gregarious, fragile.

Among chips.

Name—*ravus*, grey. Greyish. *Fr. Monogr.* i. *p.* 389. *Hym. Eur. p.* 271. *C. Illust. Pl.* 467. *a.*

665. A. mycenopsis Fr.—**Pileus** about 12 mm. (½ in.) broad, *pallid honey-colour*, slightly fleshy-membranaceous, somewhat globose then campanulate, *at length convexo-plane, obtuse* or gibbous with a broadly elevated disc, naked and even at the disc, striate and *silky with superficial white-villous down to the middle.* **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) and more thick, fistulose, sometimes straight (but not tense and straight), sometimes undulated, *attenuated upwards*, yellowish, but *white silky with adpressed villous down*, obsoletely pruinate at the apex. **Gills** so ventricose at the middle as almost to be triangular, distant, at first adnexed, at length somewhat free, *pallid*, the edge delicately flocculose.

In a plant very like this the gills are adnate, very broad behind, at length plane, becoming whitish-yellow.

In marshy ground, in a wood among *Sphagna*. King's Cliffe. Aug.–Oct.

Our plant belongs to the variety mentioned by Fries, with adnate gills. Pileus with the margin clothed with little white scales, the remains of the veil; stem slightly furfuraceous above; gills adnate, not merely fixed with a tooth.

This species has occurred with pallid gills entirely devoid of spores. *B. & Br.* Galera.
Name — ὄψις, resemblance. *Mycena*-like. *Fr. Monogr.* i. *p.* 395. *Hym. Eur. p.* 271. *Icon. t.* 129. *f.* 1. *B. & Br. n.* 1124. *C. Hbk. n.* 384. *Illust. Pl.* 467. *b. Hoffm. Ic. t.* 6. *a.*

Subgenus XXVI. **TUBARIA** (*tuba*, a trumpet).—Worth. Smith in Seem. Journ. 1870. *Stem somewhat cartilaginous, fistulose.* Pileus somewhat membranaceous, often clothed with the universal floccose veil. *Gills somewhat decurrent.* Spores ferruginous or (in Phæoti) fuscous-ferruginous. The species referred to this subgenus were taken from *Naucoria* and *Galera* because they correspond with *Omphalia* and *Eccilia.* The pileus is, however, distinctly umbilicate or depressed in only a few of them; the others are placed here on account of their somewhat decurrent gills, which are broadest behind and triangular. *Fr. Hym. Eur. p.* 272. Tubaria.

XXVIII. Agaricus (*Tubaria*) *furfuraceus.* One-half natural size.

* Genuini (typical species). *Spores ferruginous.*
** Phæoti (φαιός, dusky). *Spores fuscous-ferruginous.*

* Genuini. *Spores ferruginous.*

666. A. cupularis Bull.—**Pileus** scarcely 2.5 cent. (1 in.) broad, rufescent then light yellowish, hygrophanous, slightly fleshy, plano-depressed, obtuse, even, *smooth.* Stem 5 cent. (2 in.) and more long, slender, fistulose, naked, attenuated upwards, whitish. **Gills** decurrent, crowded, tawny.

On mountainous heath. Creag Maoiseach, Strathtay, 1877. Aug.

Spores brown-ferruginous. Name—*cupularis*, cup-shaped. *Bull. t.* 554. *f.* 2. *Fr. Hym. Eur. p.* 272. *B. & Br. n.* 1657. *S. Mycol. Scot. n.* 353.

667. A. furfuraceus Pers.—**Pileus** 1–2.5 cent. (½–1 in.) broad, pale cinnamon, becoming pale, hoary-tan when dry, slightly fleshy, convex and obtuse when young, flattened and *umbilicate* when more grown, slightly and somewhat pellucidly striate when moist, when dry even and slightly silky, covered chiefly

Tubaria.

round the margin with the hoary, *silky-squamulose veil.* **Stem** 2.5–5 cent. (1–2 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, equal, floccoso-furfurate at least when young, villous at the base with the effused white mycelium, *of the same colour as the pileus*, and deeper in colour as the pileus becomes pale. **Gills** somewhat decurrent, very broad at the stem, more or less distant, bright *cinnamon.*

Very polymorphous. Gregarious, very *hygrophanous*, *not viscid*, at length fragile. The gills scarcely change colour.

On twigs, stalks, &c. Common. Jan.–Dec.

Name—*furfur*, bran. Branny, scurfy. *Pers. Syn. p.* 454. *Fr. Monogr.* i. *p.* 382. *Hym. Eur. p.* 272. *Berk. Out. p.* 161. *C. Hbk. n.* 387. *S. Mycol. Scot. n.* 354. Var. *C. Illust. Pl.* 483. A. squarrosus *Bull. t.* 535. *f.* 3. *Batsch f.* 98.

668. A. paludosus Fr.—**Pileus** 6–8 mm. (3–4 lin.) broad, pale yellowish-fuscous, but everywhere silky with superficial pallid flocci, somewhat membranaceous, at first conical, then convex, *umbonate with a very prominent papilla*, *without striæ.* **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick at the base, attenuated towards the apex where it is only 1 m. (½ lin.) thick, fistulose, flexuous, *ochraceous; paler*, *white-villous below*, flocculose above with the remains of the veil. **Gills** *decurrent*, very broad behind, triangular and with a decurrent tooth, *crowded*, thin, *watery ochraceous*

It departs from the type of the group in having the pileus papillate. In the typical form (*stygia*) the gills are truly decurrent. There is another form, *paludosa*, occurring in dried marshes: pileus somewhat fuscous-honey colour, stem only 4 cent. (1½ in.) long, gills not decurrent.

On marshy ground among Sphagna. Rare. Aug.

Spores almond-shaped, 12 mk. *Q.* Name—*palus*, a marsh. *Fr. Monogr.* i. *p.* 396. *Hym. Eur. p.* 273. *Icon. t.* 129. *f.* 3. *B. & Br. n.* 1125. *C. Hbk. n.* 385. *Illust. Pl.* 484. *S. Mycol. Scot. n.* 355.

669. A. stagninus Fr.—**Pileus** 6–20 mm. (3–10 lin.) broad, *bay-brown-ferruginous* or brown when moist, somewhat ochraceous when dry, somewhat membranaceous, conical then hemispherical, *never flattened*, *obtuse*, sometimes rather depressed in the centre, *somewhat viscid* and slightly striate when moist, even when dry, *elegantly clothed* and appendiculate *round the margin with floccose*, superficial, *concentric*, *white scales.* **Stem** 10 cent. (4 in.) to as much as a span long, 2 mm. (1 lin.) thick, slightly tough, fistulose, equal, *rubiginous then date-brown*, somewhat pruinose at the apex. **Gills** *decurrent*, *very broad*, triangular, ferruginous.

The rooting base of the stem which is immersed among Sphagna is attenu- Tubaria.
ated and white-villous. There is a slender form differing in the darker colour, smaller, often denuded, pileus, and narrower gills.

On marshy ground. Sibbertoft, &c.

A dwarf form about the size of *A. inquilinus*, *B. & Br.* Name—*stagnum*, a swamp. *Fr. Monogr.* i. *p.* 396. *Hym. Eur. p.* 273. *Icon. t.* 129. *f.* 2 (slender form). *B. & Br. n.* 2005 *bis*. *C. Illust. Pl.* 468.

670. A. embolus Fr. Wholly pale yellowish-tawny when in vigour.—**Pileus** 12 mm. (½ in.) broad, ochraceous-tan when dry, hygrophanous, campanulate then hemispherical, obtuse, smooth, *lineato-striate*. **Stem** about 5 cent. (2 in.) long, shining-yellow when dry, becoming ferruginous at the base, fistulose, *manifestly thickened upwards, smooth*, naked. **Gills** adnate, *very broad behind, triangular*, thick, *very distant*, tawny-cinnamon when dry.

The stature and gills are wholly those of *A. umbelliferus*.

On heathy ground. Rare. Oct.

Name—ἔμβολος, a wedge. From the shape of the gills. *Fr. Monogr.* i. *p.* 393. *Hym. Eur. p.* 274. *Berk. Out. p.* 163. *C. Hbk. n.* 381. *S. Mycol. Scot. n.* 356.

671. A. autochthonus B. & Br.—**Pileus** 6 mm. (¼ in.) broad, ochrey-white, obtuse, hemispherical, silky, flocculose at the margin. **Stem** 18 mm. (¾ in.) long, not 1 m. (½ lin.) thick in the centre, flexuous, thickened upwards and at the white-woolly base. **Gills** distinctly adnate with a tooth, horizontal, honey-coloured.

Spores paler than in *A. furfuraceus*, 4 mk. (those of *A. furfuraceus* 5 mk.) It does not become pallid in drying like that species, but is of an ochraceous-white from the first. It is probably a very common species.

On the naked soil. Woodnewton, Norths.

Name—αὐτός, self; χθών, the earth. Springing from the earth itself. *B. & Br. n.* 1121. *C. Hbk. n.* 388. *Grevillea, t.* 77. *f.* 4. *Fr. Hym. Eur. p.* 274.

** Phæoti. *Spores fuscous-ferruginous.*

672. A. crobulus Fr.—**Pileus** 12–18 mm. (½–¾ in.) broad, slightly fleshy, flattened, obtuse, without striæ, slightly viscid, in itself wholly smooth, but *covered over* with floccose, somewhat squarrose, separating, white *scales*, then naked, becoming hoary-tan, shining. **Stem** 2.5 cent. (1 in.) or little more long, scarcely 2 mm. (1 lin.) thick, fistulose, tough, equal, incurved or flexuous, *fuscous, densely beset with white floccose scales*. **Gills** adnate, *somewhat decurrent*, 2 mm. (1 lin.) broad, *crowded, becoming fuscous-ferruginous*, the edge under a lens unequal.

Tubaria.

Spores brown. Allied to *A. inquilinus*. It is as it were a larger state of that species, with the veil of *A. furfuraceus*, but more evident, and here and there in the form of a floccose ring at the apex of the stem. The ring is moderately persistent, white, but often awanting.

Among sticks. Welford, Norths., &c. Sept.–Oct.

Name—κρωβύλος, a knot of hair twisted on the crown of the head. From the peculiar scales on the pileus. *Fr. Monogr.* i. *p.* 380. *Hym. Eur. p.* 274. *B. & Br. n.* 1249. *C. Illust. Pl.* 496.

673. A. inquilinus Fr.—**Pileus** 12 mm. (½ in.) broad, varying in colour, when fresh livid-fuscous (becoming hoary when dry), somewhat brick-colour (tan), hygrophanous, membranaceous, *slightly fleshy at the disc*, convex then plane and at length umbonate, *slightly viscid*, smooth, *striate when moist*, even when dry. **Stem** 2.5 cent. (1 in.) long, scarcely 2 mm. (1 lin.) thick, fistulose, tough, *attenuated downwards*, flexuous, *white-fibrillose* or slightly silky, *date-brown*, white floccose at the base; thickened at the apex, at first flocculose. **Gills** very broad behind (hence *triangular*), *broadly adnate*, *somewhat decurrent*, plane, somewhat distant, more than 2 mm. (1 lin.) broad, *clay-fuscous*, *at length umber*.

The stem is sometimes a little longer among grass, sometimes shorter on wood. Gregarious.

On chips, stalks, &c. Common. Aug.–Oct.

Pileus yellowish or tan colour, *M. J. B.* Name—*inquilinus=incolinus* (incolo), a lodger. Growing on other substances, parasitic. *Fr. Monogr.* i. *p.* 380. *Hym. Eur. p.* 274. *Berk. Out. p.* 161. *C. Hbk. n.* 386. *Illust. Pl.* 497. *S. Mycol. Scot. n.* 357.

Crepidotus.

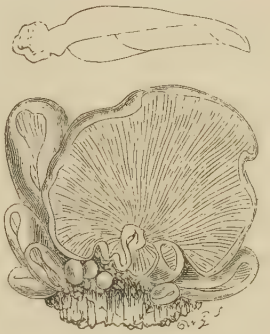
Subgenus XXVII. **CREPIDOTUS** (κρηπίς, *crepida*, a slipper, sandal). Fr. Syst. Myc. i. p. 272. Stature various, irregular, without a manifest veil. Pileus excentric, lateral or resupinate. Spores ferruginous.

The species belonging to Worthington Smith's subgenus Claudopus have been removed from this subgenus, as they are intermediate between Hyporhodii and Dermini by reason of the rubiginous spores. *Fr. Hym. Eur. p.* 275.

Crepidotus corresponds with *Pleurotus*. The species grow on wood, rarely on mosses, and appear late. Commonly thin, with soft flesh, scarcely edible. Compare *Paxillus atro-tomentosus*, *panuoides*, *&c.*, which differ completely as to the gills.

674. A. alveolus Lasch.—**Pileus** 5 cent. (2 in.) and more long, *moist*, *ochraceous-fuscous*, occasionally becoming olive at the mar-

gins, becoming pale when dry, fleshy-soft, obovate, sometimes re- Crepidotus.
pand, rather plane, even, smooth ; *dimidiate*, laterally somewhat sessile, or *extended behind with a short, stem-like, tomentoso-villous base* and horizontal. **Gills** *determinate*, not decurrent at the base, *broad*, crowded, clay-fuscous.



XXIX. Agaricus (*Crepidotus*) *mollis.* One-half natural size.

Very much allied to *A. mollis*, but differing in the more fleshy, somewhat cuneiform pileus, in the colour of all its parts being darker, and especially in the broad gills.

On old stumps, oak, &c. Rare. Aug.–Oct.

Name—*alveus*, a trough. Shaped like a little trough. *Lasch n.* 582. *Fr. Monogr.* i. *p.* 398. *Hym. Eur. p.* 275. *Berk. Out. p.* 163. *C. Hbk. n.* 352. *Illust. Pl.* 499 *a. S. Mycol. Scot. n.* 358.

675. A. mollis Schæff.—**Pileus** *pallid then becoming hoary*, at length with rufous spots from the shed spores, *gelatinous-fleshy*, convexo-plane, obovate or reniform, undulated and lobed when larger, flaccid, even, *smooth*, dimidiate, *somewhat sessile* (but varying extended behind into a short, 12 mm. (½ in.), strigose stem), often imbricated; flesh *very soft*, more or less thick, watery whitish. **Gills** commonly decurrent to the base, *linear*, 2–4 mm. (1–2 lin.) broad, crowded, whitish-grey then watery cinnamon.

On sticks, stumps, sawdust, &c. Common. July–Nov.

Pileus 2.5–7.5 cent. (1–3 in.) broad. Spores 9 × 5 mk. *W.G.S.* Name—*mollis*, soft. *Schæff. t.* 213. *Fr. Monogr.* i. *p.* 399. *Hym. Eur. p.* 275. *Berk. Out. p.* 164. *t.* 9. *f.* 6. *C. Hbk. n.* 353. *Illust. Pl.* 498. *S. Mycol. Scot. n.* 359. *Sow. t.* 98. *Hussey* i. *t.* 74. *Price f.* 25. *Brigant. t.* 41. *f.* 6–8. *Letell. t.* 688.

676. A. applanatus Pers.—**Pileus** watery cinnamon when moist, whitish when dry, very hygrophanous, slightly and watery fleshy, soft, but *fragile, wholly plane* and horizontal, *extended behind* in a straight line *into a very short white tomentose stem*, otherwise *reniform* or cuneiform, slightly striate at the margin when moist, even when dry; at length depressed behind, somewhat sessile. **Gills** *ending determinately* behind, crowded, linear, thin, *whitish*, then watery cinnamon.

Pileus watery but not gelatinous. Encircled at the base with the whitish mycelium growing on the wood.

On decaying wood. Penzance.

Crepidotus. Spores sphæroid, uniguttate, 5-6 mk. *K.* Name—*plano*, to make level. Become plane. *Pers. Obs.* i. *p.* 8. *t.* 5. *f.* 3 (under the name of A. stipticus). *Fr. Monogr.* i. *p.* 399. *Hym. Eur. p.* 276. *B. & Br. n.* 2006.

677. A. calolepis Fr.—**Pileus** scarcely 12 mm. (½ in.) broad, slightly fleshy, reniform, convex, almost shell-shaped, dimidiate, *sessile on a small villous knot*, margined with white behind, *beautifully variegated* with minute, crowded, rufescent *scales;* flesh firm, not gelatinous. **Gills** *concurrent at the base*, rounded behind, comparatively broad, at first becoming pallid fuscous, then fuscous-ferruginous.

Spores fuscous-ferruginous.

On dead wood. Edinburgh Fungus Show, 1878. Oct.

Name—καλός, beautiful; λεπίς, a scale. *Fr. Hym. Eur. p.* 276. *Icon. t.* 129. *f.* 4. *B. & Br. n.* 1765. *S. Mycol. Scot. n.* 360. *C. Illust. Pl.* 499. *b.*

678. A. haustellaris Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, *pale yellowish-tan*, becoming pale, slightly fleshy, almost pellucid, flaccid, exactly *lateral*, *reniform*, plane, even, delicately villous; flesh very thin, watery, pallid-light-yellowish. **Stem** *distinct* and almost separate, 4–8 mm. (2–4 lin.) long, 2 mm. (1 lin.) and more thick, *attenuated upwards*, almost conical, round, *villous*, white, somewhat ascending when young, then straight and horizontal. **Gills** determinate, *rounded*, somewhat crowded, pallid then *fuscous-cinnamon.*

Regular, gregarious, but never cæspitose or imbricated. Chiefly remarkable for the somewhat conical stem and almost free gills. The pileus when older is cinnamon, and as if pulverulent with the spores. The stem, which is commonly solid, has sometimes occurred hollow. It has many features in common with *A. calolepis*, but they differ in more.

On dead trunks. Rare.

Name—*haustus*, a drawing water. From the watery flesh. *Fr. Monogr.* i. *p.* 399. *Hym. Eur. p.* 276. *Berk. Out. p.* 164. *B. & Br. n.* 2007. *C. Hbk. n.* 354.

679. A. rubi Berk.—**Pileus** 6–12 mm. (¼–½ in.) broad, yellowish or livid-grey, pallid when old, fleshy, *clothed with very minute crystalline meal.* **Stem** short, incurved, solid, strigose at the base. **Gills** adnato-decurrent, slightly ventricose, rather distant, greyish then umber, edge pulverulent.

Spores umber. The pileus, which is at first regular with a short stem, gradually becomes excentric and resupinate. The stem is at first straight then incurved, externally mealy, adhering by a little fine down.

On dead bramble, &c. Uncommon. Aug.–Oct.

The habit is wholly that of forms of *A. depluens*, but distinguished by the

"*umber spores*," *Fr.* Name — *rubus*, bramble. *Berk. Eng. Fl.* v. *p.* 102. Crepidotus. *Out. p.* 164. *t.* 9. *f.* 7. *C. Hbk. n.* 355. *S. Mycol. Scot. n.* 361. *Fr. Hym. Eur. p.* 276.

680. A. chimonophilus B. &. Br. Pure white.—**Pileus** 6 mm. (¼ in.) broad, convex, rather thick, clothed with villous down, margin inflexed. Stem extremely short or obsolete. **Gills** attenuated behind, few, distant.

Spores pale yellow-brown, oblongato-elliptic, with a distinct lateral nucleus.

On dead branches of *Pyrus torminalis*. Benefield, Norths. Dec.

Name—χειμών, winter; φιλός, loving. *B. & Br. n.* 687. *Out. p.* 164. *C. Hbk. n.* 356. *Fr. Hym. Eur. p.* 276.

681. A. epibryus Fr.—**Pileus** 4–6 mm. (2–3 lin.) and more broad, *shining white*, membranaceous, resupinate, sessile, adnate at the vertex, *becoming silky-even*. **Gills** *concurrent in the centre*, thin, *crowded, whitish then pale yellowish* (not rubiginous).

The structure and appearance are wholly those of *A. variabilis*, but it differs conspicuously from that species in its *form being more regular*, cup-shaped, always entire, but not effuso-reflexed, and in being *without the rudiment of a stem*.

On mosses, grass, holly-leaves, living Vaccinium, &c. Coed Coch, 1878, &c. Oct.

Name—ἐπί, upon; βρύον, moss. *Fr. Hym. Eur. p.* 277. *Monogr.* i. *p.* 401 *B. & Br. n.* 1766.

682. A. Phillipsii B. & Br. Slightly umber.—**Pileus** about 6 mm. (3 lin.) broad, oblique, striate, smooth. **Stem** 2–3 mm. (1–1½ lin.) long, solid, incurved at the base. **Gills** shortly adnate, narrow, ventricose.

On grass. Wrekin. Penicuik. Autumn.

Spores 5 mk. *B. & Br.*; 5×7 mk. *W.P.* Name—after William Phillips. *B. & Br. n.* 1658. *S. Mycol. Scot. n.* 362.

683. A. pezizoides Nees.—**Pileus** sessile, thin, *cup-shaped then reflexed, mealy*, somewhat tomentose. **Gills** concurrent at the centre, somewhat distant, *olivaceous-fuscous* then tawny.

Spores unknown. Gregarious.

On rotten branches. Rare. Warwickshire.

Name—*Peziza-like. Nees. Act. Nat. Curios.* ix. *t.* 6. *f.* 18 (very young). *Fr. Hym. Eur. p.* 277. *Berk. Out. p.* 165. *C. Hbk. n.* 357.

684. A. Ralfsii B. & Br.—**Pileus** yellow, semi-reflexed, delicately furfuraceous, slightly hispid, the involute margin spreading,

Crepidotus. adfixed by cottony flocci. **Stem** obsolete. **Gills** ventricose, clay-colour, margin whitish.

On decaying wood. Penzance.

Name—after J. Ralfs. *B. & Br. n.* 2008.

Series IV. **PRATELLI** (*pratum*, meadow or pasture ground). Spores typically black-purple or fuscous-purple, more rarely fuscous. [It is to be observed that the spores vary in colour according to the colour of the ground on which they are deposited.] There are sterile forms with the gills persistently white (*A. obturatus*, *A. udus*). Those species are more deceptive in which the gills continue for a long time white, and even begin to decay before they are discoloured by the spores; these may be easily mistaken for Leucospori. *Fr. Hym. Eur. p.* 277.

Chitonia. *Subgenus XXVIII.* **CHITONIA.**—The universal veil (forming a volva) separate from the pileus. Hymenophore separate from the stem. Gills free. Spores fuscous-purple. Analogous with *Amanita* and *Volvaria*. *Fr. Hym. Eur. p.* 277.

No British species.

Psaliota. *Subgenus XXIX.* **PSALIOTA** (ψάλιον, a ring or collar). Fr. Syst. Myc. i. p. 280, Stropharia included. Stem ringed, separate from the hymenophore. Gills free. *Fr. Hym. Eur. p.* 278.

Psaliota corresponds with *Lepiota*. The gills are rounded behind and manifestly free, exactly as in *Lepiota*. The species grow on the ground, and begin to appear about the end of summer. The larger ones have been more esteemed as food perhaps than any other, and are well known from the common mushroom (*A. campestris*).

* Edules (*edulis*, edible). *Larger, more fleshy, celebrated under the name* of Champignon.
** Minores. *Not used as food, pileus thinly fleshy.*

* Edules. *Larger, more fleshy, &c.*

685. A. Elvensis B. & Br.—**Pileus** 15 cent. (6 in.) and more broad, somewhat globose then hemispherical, fibrillose, broken

up into large persistent brown, not fusco-citrinous scales, areolate in the centre; margin very obtuse, thick, covered with pyramidal warts; flesh 18 mm. (¾ in.) thick in the centre, turning red when cut. **Stem** 10 cent. (4 in.) long, 5 cent. (2 in.) thick in the centre, solid, stuffed with delicate threads, at first nearly equal, at length swollen in the centre and attenuated at the base, fibrillose and areolate below, nearly smooth within the pileus. Ring thick, very large, deflexed, broken here and there, areolato-verrucose beneath. **Gills** free, 6 mm. (3 lin.) broad, of a brownish flesh-colour. Psaliota.

XXX. Agaricus (Psaliota) campestris. One-third natural size.

Cæspitose. Taste and smell excellent.

Under oak-trees. Bodelwyddan, 1863. Sept.

Name—from the district bordering on the Elwy. *B. & Br. n.* 1009. *C. Hbk. n.* 392. *Fr. Hym. Eur. p.* 278.

686. A. arvensis Schæff.—**Pileus** 7.5–10 cent. (3–4 in.) and more broad, whitish, fleshy, globoso-campanulate then flattened, obtuse, *flocculoso-mealy when young*, then slightly silky even or squamulose, dry; flesh thick, compact, at length softer, white, unchangeable. **Stem** 7.5 cent. (3 in.) and more long, 2.5 cent. (1 in.) and more thick, *hollow*, with a lax floccose pith, but stout, thickened at the base, obsoletely marginato-bulbous when young, even, smooth, white. Ring *superior*, large, pendulous, *formed as it were of two growing together*, the interior one membranaceous, uniform, the *exterior* one thicker and shorter, *somewhat free at the circumference, radiately split.* **Gills** free, *approximate*, ventricose, broader in front, always arid, *white*, at length *reddish-fuscous.*

The gills remain long pallid, are never dark red as in *A. pratensis*, and never deliquescent.

In meadows and borders of fields, &c. Common. Spring, Autumn.

Known as the "Horse-Mushroom." When young and fresh it is delicious, but becomes tough when old. The flesh is firm and abundantly juicy. According to Berkeley it often turns yellow when bruised. Spores sphæroid-ellipsoid, 9×6 mk. *K.*; 11×6 mk. *W.G.S.* Name—*arvum*, a cultivated field. *Schæff. t.* 310, 311. *Fr. Monogr.* i. *p.* 405. *Hym. Eur. p.* 278. *Sverig. ätl. Sv. t.* 4. *Berk. Out. p.* 166. *t.* 10. *f.* 4. *C. Hbk. n.* 389. *S. Mycol. Scot. n.* 363. *Hussey* i. *t.* 76, 77. *Paul. t.* 134. *f.* 1, 2. A. Georgii

Psaliota. *Sow. t.* 304. *Berk. Eng. Fl.* v. *p.* 105. A. edulis *Krombh. t.* 23. *f.* 11–14, 26. *f.* 9–13. *Tratt. Essb. Schw. t. J.* A. exquisitus *Vett. Mang. t.* 18. Var. purpurasceus *C. Illust. Pl.* 584.

687. A. cretaceus Fr.—**Pileus** 7.5 cent. (3 in.) and more broad, wholly *white*, fleshy, lens-shaped-globose when young, then convexo-flattened, obtuse, dry, *sometimes even*, sometimes rivulose chiefly round the margin from the cuticle *separating into squamules;* flesh thick, white, unchangeable. **Stem** 7.5 cent. (3 in.) long, 6–12 mm. (3–6 lin.) and more thick, *hollow*, *stuffed with a spider-web pith*, firm, attenuated upwards, even, smooth, not spotted, white. Ring superior, large, reflexed with the margin again erected, even, white. **Gills** free, then remote, ventricose but *very much narrowed towards the stem*, crowded, *remaining long white*, becoming fuscous only when old.

Spores wholly as in *A. campestris.*

In meadows and stoves. Rare.

The stem is sunk into the substance of the pileus so as to make the gills remote. At first sight it looks much like a *Lepiota*, as, for example, *A. naucinus*, *M. J. B.* Spores 3×4 mk. *W. G. S.* Name—*creta*, chalk. Chalky-white. *Fr. Monogr.* i. *p.* 404. *Hym. Eur. p.* 279. *Sv. Bot. t.* 596. *f.* 2. *Sverig. ätl. Svamp. t.* 39. *Berk. Out. p.* 167. *t.* 10. *f.* 5.

688. A. campestris Linn.—**Pileus** about 7.5 cent. (3 in.) broad, varying white and rufescent, fleshy, lens-shaped-convex then flattened, obtuse, dry, sometimes *silky-even*, *sometimes squamulose;* flesh thick and soft, *becoming reddish or* sometimes *becoming fuscous.* **Stem** *stuffed*, firm, short, bulbous when young, then somewhat equal, even or squamulose, white. Ring *medial*, or more strictly *sheathed* to the middle, spreading or reflexed, torn, often deciduous and sometimes in the form of a cortina. **Gills** free, *approximate*, ventricose, *equally attenuated at both ends*, crowded, often deliquescent, whitish then *soon flesh-coloured and at length umber-fuscous.*

Much more variable than *A. arvensis*, &c., both in stature and colours. There are numerous varieties: A. *alba* pileus somewhat silky, whitish; stem short. *Berk. Out. t.* 10. *f.* 2. *Viv. t.* 44. *Harz. t.* 9.—B. *praticola* pileus rufous-scaly, flesh immediately rufescent. *Vittad. t.* 7. *Viv. t.* 43.—C. *rufescens* pileus rufous, minutely squamulose; stem elongated. *Berk. t.* 10. *f.* 3.—D. *umbrina* pileus becoming even, umber; stem stout, squamulose. *Vitt. t.* 8.—E? *fulvaster* pileus even, ochraceous tawny; stem solid; gills rose-coloured then blackish. *Viv. t.* 45 *upper fig.;* perhaps distinct. More abnormal variations are *costata* pileus sulcate, repand. *Viv. t.* 45 *lower fig.; A. villaticus* pileus with the skin peeling off in scales; stem scaly, from the inferior veil, with somewhat of a volva sheathed and ringed. *Brond. Cr. Ag. t.* 7. *B. & Br. n.* 1533*, 13 in. in diameter, with a stem 3 in. thick. *C. Illust. Pl.* 585. Various forms, commonly becoming fuscous, are cultivated under the names *A. hortensis*, *vaporarius*, *cryptarum*, &c. *Krombh. t.* 26. *f.* 14. *Paul. t.* 132. *Secr. n.* 94.

In meadows, &c. Cosmopolitan. May–Oct. Psaliota.

Although very common it is very capricious in its growth. Edible. Well known as the common mushroom. Spores sphæroid-ellipsoid, 9 × 6 mk. *K.*; 6 × 8 mk. *W.G.S.* Name—*campus*, a plain, field. *Linn. Suec. n.* 1205. *Fr. Monogr.* i. *p.* 406. *Hym. Eur. p.* 279. *Sverig. ätl. Sv. t.* 5. *Berk. Out. p.* 165. *C. Hbk. n.* 390. *S. Mycol. Scot. n.* 364. *Sow. t.* 305. *Grev. t.* 161. *Hussey* i. *t.* 90. *Schæff. t.* 33. *Krombh. t.* 23. *f.* 1–8. *Vittad. t.* 6–8. *Barla t.* 27. *Tratt. t.* K. *Gonn. & Rab.* 2. *t.* 1. &c.

* **A. silvicola** Vitt.—**Pileus** *becoming even, shining, white.* **Stem** *stuffed*, elongated, somewhat bulbous, *ring simple;* flesh somewhat unchangeable. **Gills** acute behind, whitish then slowly becoming fuscous.

Like *A. arvensis*, but distinguished by the ring, &c.

In woods. Not uncommon. Name—*silva*, a wood; *colo*, to inhabit. *Vitt. Fr. Hym. Eur. p.* 280. *Monogr.* i. *p.* 406. *Berk. Out. p.* 166. *C. Hbk. n.* 390. *S. Mycol. Scot. n.* 364. *Krombh. t.* 23. *f.* 8. *Gonn. & Rab.* ii. *t.* 2. *Paul. t.* 183.

689. A. silvaticus Schæff. — **Pileus** 7.5 cent. (3 in.) broad, somewhat ferruginous, scales rufescent or becoming fuscous, thinly fleshy, oval then campanulate and flattened, *somewhat umbonate, the whole surface floccose, torn into squamules*, the disc however often remaining continuous, and at length denuded of scales, margin often rimosely incised; flesh thin, fragile, white, commonly rufescent. **Stem** 7.5 cent. (3 in.) and more long, 12 mm. (½ in.) thick, *slender*, at first stuffed with a cylindrical separate white pith, then *hollow, equal*, dingy white, fibrillose below the ring, even above it, smooth. Ring *distant, simple*, floccose beneath, sometimes wide but thin and membranaceous, sometimes narrow, incomplete, fugacious. **Gills** free, ventricose, *equally attenuated at both ends*, thin, arid, reddish then cinnamon-fuscous or umber-fuscous.

The flesh is much thinner than that of its allies. The stem is much longer and *more slender* than that of *A. campestris*, &c.

In woods. Frequent. July–Sept.

Smell strong, *M.J.B.* Spores 4 × 6 mk. *W.G.S.* Name—*silva*, a wood. *Schæff. t.* 242. *Fr. Monogr.* i. *p.* 406. *Hym. Eur. p.* 280. *Berk. Out. p.* 167. *C. Hbk. n.* 391. *S. Mycol. Scot. n.* 365. *Krombh. t.* 24. *f.* 9, 10 (inclining to A. campestris).

690. A. hæmorrhoidarius Kalchbr.—**Pileus** rufous-fuscous, fleshy, ovate then expanded, *covered with broad adpressed scales*, margin at first *bent inwards;* flesh when broken immediately blood-red. **Stem** soon hollow, fibrillose, the solid base somewhat bulbous. Ring superior, large. **Gills** free, approximate, crowded, rosy-flesh-colour, at length purple-umber.

Psaliota.

Very striking, 7.5–10 cent. (3–4 in.) high. The pileus and the white stem become spotted-blood-red when touched. The stem when young is adpressedly squamulose below, when full grown mealy, becoming smooth.

In woods. Lilleshall, Salop, &c. Nov.

Pileus 10 cent. (4 in.) across; stem 10 cent. (4 in.) high, 2.5 cent. (1 in.) thick, *B. & Br.* Name—αἱμορροίδες (φλέβες) veins which discharge blood, hæmorrhoids. *Kalchbr. Hung. t.* 18. *f.* 1. *Fr. Hym. Eur. p.* 281. *B. & Br. n.* 1534.

** MINORES. *Not used as food, pileus thinly fleshy.*

691. A. comtulus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, *yellowish-white*, slightly fleshy, convex then plane, obtuse, *adpressedly fibrilloso-silky*, becoming even; flesh thin, soft, of the same colour as the pileus. **Stem** 5 cent. (2 in.) long, 4–6 mm. (2–3 lin.) thick, *hollow*, stuffed with floccules when young, *somewhat attenuated*, even, smooth, white, becoming somewhat light yellow. Ring medial, torn, fugacious, of the same colour. **Gills** rounded-free behind, crowded, soft, broader in front, *flesh-colour* then *rose*, not fuscous-flesh-colour except when old.

Very much allied to *A. campestris*, but constantly distinct in its more beautifully coloured gills.

In woods, &c. Coed Coch, 1880. Autumn.

Name—*comptus*, gaily adorned. *Fr. Monogr.* i. *p.* 407. *Hym. Eur. p.* 281. *Icon. t.* 130. *f.* 1. *B. & Br. n.* 1874.

692. A. echinatus Roth.—**Pileus** 2.5–5 cent. (1–2 in.) broad, of a peculiar fuliginous colour, slightly fleshy, *campanulate*, obtuse, at the first *floccoso-pulverulent* and somewhat continuous, then densely and adpressedly rivuloso-scaly, without striæ; flesh thin, whitish. **Stem** 4–5 cent. (1½–2 in.) long, 2–4 mm. (1–2 lin.) thick, firm, *fistulose*, with a lax white arachnoid web internally, otherwise externally and internally *cinnabar-purple*, below the ring densely *covered over* with *flocculoso-pulverulent* mouse-coloured *sootiness* which can be rubbed off, equal, naked above the ring. Ring floccoso-membranaceous, *externally sprinkled with fuliginous dust*, soon torn, appendiculate at the margin; very beautifully striate above, becoming purple-whitish. **Gills** free, reaching a slightly prominent but little elevated collar, *crowded*, *narrow*, rarely exceeding 2 mm. (1 lin.) broad, *very beautifully cinnabar-purple*, the edge which is quite entire of the same colour.

Gregarious, cæspitose; odour of cucumber. The soil is rolled together with the white mycelium in the form of a ball at the base of the stem. When

bruised the stem changes colour, becoming purple. The spores are normally fuscous-purple, but they change to fuscous-green with the colour of the ground and (on a black ground) to ochraceous-whitish; never rose-coloured. Not rightly allied to any. Psaliota.

On peat-beds in gardens. Rare.

Spores sometimes colourless, *M. J. B.* Name *echinus*, a hedgehog. Prickly. *Roth. Catal.* 2. *t.* 9. *f.* 5. *Fr. Monogr.* i. *p.* 408. *Hym. Eur. p.* 282. *Berk. Out. p.* 167. *C. Illust. Pl.* 395. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 25. A. oxyosmus *Mont. in Ann. Sc. Nat.* 1836. *t.* 10. *f.* 3. *Brigant. t.* 27. *f.* 1-3. A. Hookeri *Klotsch.*

Subgenus XXX. **STROPHARIA** (στρόφος, a sword-belt; referring to the ring). Fr. Monogr. i. p. 409. Hymenophore continuous with the stem. Veil annular. Gills more or less adnate. *Fr. Hym. Eur. p.* 283. Stropharia.

Stropharia corresponds with *Armillaria* and *Pholiota.* The species grow on the ground, or are epiphytal. None are edible.

XXXI. Agaricus (*Stropharia*) *æruginosus.* One-third natural size.

A. Viscipelles (*viscum*, bird-lime; *pellis*, skin). *Pellicle of the pileus even or scaly, most frequently viscous.*

* *Mundi* (*mundus*, clean), not growing on dung.

** *Merdarii* (*merda*, dung), ring often incomplete.

B. Spintrigeri (*A. spintriger*). *Pileus without a pellicle, but innato-fibrillose, not viscous.*

A. Viscipelles. *Pellicle of the pileus even or scaly, &c.*

* *Mundi*, not growing on dung.

693. A. versicolor With.—**Pileus** 2.5-10 cent. (1-4 in.) broad, becoming greenish-brown, fleshy, convexo-plane, scaly, *the scales of the disc crowded.* **Stem** 5 cent. (2 in.) long, as thick as a swan-quill, spongy-stuffed, *bulbous*, whitish-fuscous. Ring persistent. **Gills** decurrent, pallid, then rufous-brown.

Not recognised since the time of Withering. Name—*verto*, to turn; *color*, colour. *With. Arr.* 4. *p.* 166. *Fr. Hym. Eur. p.* 284. *Syst. Myc.* i. *p.* 286. *Berk. Out. p.* 167. *C. Hbk. n.* 394.

694. A. æruginosus Curt.—**Pileus** fleshy, but not compact, campanulato-convex then flattened, somewhat umbonate (obtuse

Stropharia. when larger), *viscoso-pelliculose*, the ground colour yellowish but *verdigris from the azure-blue slime* with which it is more or less covered over, becoming pale as the slime separates. **Stem** *hollow*, soft, equal, *at the first scaly* or fibrillose *below the ring*, *viscid*, *becoming* more or less *azure-blue-green*. Ring distant. **Gills** adnate, plane, 4 mm. (2 lin.) and more broad, not crowded, soft, whitish then fuscous, becoming somewhat purple.

The above are the essential marks of this species. Varying cæspitose. Polymorphous. The typical and handsomest form is gathered in soaking weather in later autumn in shady woods; it is large (pileus and stem 7.5 cent. (3 in.) and more), stem squarrose with white spreading scales, pileus sprinkled with white superficial scales, intensely verdigris- or azure-blue-pelliculose and very glutinous. From this there is a long series of forms with the gluten more separating (on the separation of the gluten the pileus becomes yellow), and the scales alike of the pileus and stem rubbed off. Finally, a smaller form occurs in open meadows, stem scarcely 5 cent. (2 in.) long, only 4 mm. (2 lin.) thick, becoming azure-blue-green and without scales, pileus 2.5–5 cent. (1–2 in.) broad, pale verdigris soon light yellowish, less viscid. In this form the ring is incomplete, while in the typical form it is entire, spreading, and persistent.

In woods, meadows, &c. Common. July–Nov.

Poisonous. Spores ellipsoid or sphæroid-ellipsoid, 8×4–5 mk. *K.*; 5×7 mk. *W.G.S.* Name—*ærugo*, verdigris. *Curt. Lond. t.* 309. *Fr. Monogr.* i. *p.* 411. *Hym. Eur. p.* 284. *Berk. Out. p.* 168. *C. Hbk. n.* 395. *S. Mycol. Scot. n.* 366. *Sow. t.* 264. *Hussey* i. *p.* 35. *Krombh. t.* 3. *f.* 27, 28; *t.* 62. *f.* 11–14. *Schæff. t.* 1. *Batsch f.* 213. *Fl. Dan. t.* 1248. *Klotsch in Fl. Bor. t.* 458. *Fl. Batav. t.* 617.

695. A. albo-cyaneus Desm.—**Pileus** *milk-white* and shining when young, *then verdigris-green*, fleshy, convex then plane, smooth, always *naked* (not scaly) and *viscous*, but the *gluten* is limpid and *not coloured;* flesh soft, watery. **Stem** about 5 cent. (2 in.) long, 6–8 mm. (3–4 lin.) thick, *hollow*, soft, at length fragile, equal, ascending or flexuous, rather naked below the ring, *not viscid*, wholly *white* and when dry preserving a clear whiteness. Ring a few lines distant, narrow, *white* or stained fuscous with the spores, pruinate above the ring. **Gills** adnate, thin, scarcely crowded, rather broad, at first whitish, then somewhat sinuate, becoming fuscous.

It varies cæspitose. Pellicle of the pileus not easily separable. Thinner, smaller, and especially softer than *A. æruginosus*.

In meadows and fields. Uncommon. Sept.–Oct.

Spores 7×4 mk. *W.P.* Name—*albus*, white; *cyaneus*, blue. *Desmaz. Cat. p.* 22. *Fr. Monogr.* i. *p.* 411. *Hym. Eur. p.* 284. *Berk. Out. p.* 168. *C. Hbk. n.* 396. *S. Mycol. Scot. n.* 367. *Pers. Myc. Eur.* 3. *t.* 29. *f.* 2, 3.

696. A. inunctus Fr.—**Pileus** 2.5 cent. (1 in.) scarcely 5 cent.

(2 in.) broad, pallid light yellow, but *becoming livid-purple with the dense gluten* with which it is at first besmeared, fleshy, convexo-plane, somewhat umbonate, pelliculose, viscid, smooth, slightly striate at the margin; flesh thin, soft, white. **Stem** 7.5 cent. (3 in.) long, *fistulose*, thin, equal, very flexuous, often decumbent, very soft, *dry*, *shining white*, silky-*fibrillose below the* medial distant fugacious *ring*. **Gills** adnate, *with a decurrent tooth*, 6 mm. (3 lin.) broad, scarcely crowded, *whitish then becoming fuscous*, when bruised whitish at the sides. Stropharia.

Spores fuscous-purple. Gregarious, somewhat cæspitose. There are two forms: one with the pileus campanulato-expanded, and the stem stuffed; another with the pileus convexo-plane, more evidently umbonate, and the stem hollow. Very remarkable, soft, the pellicle of the pileus easily separating.

In pastures. Ely, &c. Oct.–Nov.

Stem 6 cent. (2½ in.) high, 6 mm. (3 lin.) thick, stuffed, composed of fibres. Resembling some states of *A. æruginosus*, but the spores are of a different colour and much smaller. *B. & Br.* Spores 7 mk. *B. & Br.*; 9×5 mk. *W.G.S.* Name—*inungo*, to besmear. From the gluten. *Fr. Monogr.* i. *p.* 412. *Hym. Eur. p.* 284. *B. & Br. n.* 1229, 1875. *S. Mycol. Scot. n.* 368. *Saund. & Sm. t.* 29. *f.* 6, 7. *Buxb. Cent.* iv. *t.* 4. *f. minor.*

697. A. obturatus Fr.—**Pileus** *light yellow*, fleshy, for the most part thick, convex then plane, obtuse, obsoletely viscid, *commonly dry*, even but *often rimosely squamulose;* flesh compact, shining white. **Stem** short, 2.5–4 cent. (1–1½ in.) long, 6 mm. (3 lin.) and more thick, firm, *stuffed*, *attenuated downwards*, even, not scaly, white. Ring superior, deflexed, white. **Gills** adnate and without a decurrent tooth, *crowded*, plane, *white then becoming purple-umber.*

Readily distinguished from preceding species by its *obese stature and compact flesh.* The spores are fuscous on a white ground, vinous-purplish on a black ground. The gills never become ferruginous; they often become sterile and remain white, so that it may be easily taken for a species of *Armillaria.*

On the ground among grass. Rare.

Spores 6×9 mk. *W.G.S.*; 7×4 mk. *W.P.* Name—*obturo*, to stop up, close. Perhaps from the stuffed stem. *Fr. Monogr.* i. *p.* 412. *Hym. Eur. p.* 285. *B. & Br. n.* 1253. *C. Hbk. n.* 397. *S. Mycol. Scot. n.* 369. (*Saund. & Sm. t.* 25. *f.* 1, 2 much smaller, perhaps *A. melaspermus*).

698. A. melaspermus Bull.—**Pileus** 2.5–5 cent. (1–2 in.) broad, yellow, changing colour when old, fleshy, soft, convex then flattened, obtuse, pelliculose, viscid in wet weather, *shining when dry*, even, smooth, never rimosely squamulose; flesh soft, white. **Stem** *short*, 2.5 cent. (1 in.) or a little more long, 4–6 mm. (2–3

Stropharia. lin.) thick, *hollow, equal*, fragile, dry, smooth, sometimes *fibrillose below the ring*, shining white or becoming yellow. Ring medial, membranaceous, white. **Gills** *deeply rounded* and sometimes emarginate, ventricose, broad, *crowded*, pallid then sometimes violaceous-fuscous, sometimes cinereous-fuscous.

Spores fuscous on a white ground, vinous- or fuscous-purplish on a black ground. In woods the stem is elongated.

In meadows and borders of thickets. Rare. Aug.

According to Bulliard, &c., the spores are black. Name—μέλας, black; σπέρμα, seed. Black-spored. *Bull. t.* 540. *f.* 1. *Fr. Monogr.* i. *p.* 413 (phæospermus). *Hym. Eur. p.* 285. *Icon. t.* 130. *f.* 2. *Berk. Out. p.* 168. *B. & Br. n.* 1254. *C. Hbk. n.* 398. *S. Mycol. Scot. n.* 370. *Quel. t.* 24. *f.* 3 (pileus white).

699. A. squamosus Fr.—**Pileus** 2.5–7.5 cent. (1–3 in.) broad, ochraceous, fleshy, thin, hemispherical then flattened, more frequently obtuse or gibbous with an obsolete umbo, viscoso-pellicular when moist, not viscous when dry; *sprinkled* with superficial *piloso-fasciculate concentric scales*. **Stem** 7.5–12.5 cent. (3–5 in.) long, 4 mm. (2 lin.) thick, *tubular*, at first stuffed, soon hollow, slender, equal, *tough*, pallid upwards, *ferruginous below*, pulverulent above the entire membranaceous distant ring, villous-scaly below. **Gills** adnate, broad, crowded, plane, cinereous then blackish, white at the edge.

Below the ring the stem is sometimes A) squarrose with fibrillose reflexed *scales;* sometimes B) wholly *covered over* with dense strigose *down*. A. *Pers. Fl. Dan. t.* 2077. *f.* 1. B. A. distans *Pers. Fl. Dan. t.* 2077. *f.* 2. Var. with *pileus fuscous*, on trunks of alder. Weinm. p. 243.

In woods and open ground. Frequent. Sept.–Oct.

Spores 10×7 mk. *W. G. S.* Name—*squama*, a scale. Scaly. *Fr. Monogr.* i. *p.* 414. *Hym. Eur. p.* 285. *Berk. Out. p.* 168. *t.* 10. *f.* 6. *C. Hbk. n.* 399. *S. Mycol. Scot. n.* 371.

A. thraustus *Kalchbr. Fung. Hung. t.* 15. *f.* 4 exactly resembles A. squamosus or distans *Fl. Dan. t.* 2077. *f.* 2 with the easily separating scales of the pileus removed. The description however differs, inasmuch as it is represented as very fragile and hygrophanous, in which it approaches *A. albonitens*.

Spores oblong, ovate, .015 mm. long. Name—θραύω, to break. Brittle, easily broken. Rannoch. *Fr. Hym. Eur. p.* 286. *B. & Br. n.* 1659. *Grevillea, vol.* vi. *p.* 101. *S. Mycol. Scot. p.* 70.

700. A. Percevali B. & Br.—**Pileus** 5 cent. (2 in.) broad, ochraceous, fleshy, umbonate then flattened, slightly viscid, white-floccose here and there especially at the margin; flocci at length

coming off. **Stem** 5–7.5 cent. (2–3 in.) long, attenuated upwards, 8–12 mm. (4–6 lin.) thick at the base, 6 mm. (3 lin.) above, hollow and pallid upwards, transversely scaly. Ring narrow, more or less persistent. **Gills** adfixed, broad, 8 mm. (4 lin.), very distant, white then somewhat cinereous, at length pallid umber. Stropharia.

Flesh of pileus at length dull umber; stem umber within, rooting. Allied to *A. squamosus*, but abundantly distinct.

On sawdust. Wallington, Northumberland.

Spores 15×7 mk. *W.P.* Name—after Cecil H. Spencer Perceval. *B. & Br. n.* 1767.

701. A. Worthingtonii Fr.—**Pileus** scarcely 2.5 cent. (1 in.) broad, *yellow*, slightly fleshy, campanulate, *even, smooth*, viscid (?). **Stem** 7.5 cent. (3 in.) long, scarcely 2 mm. (1 lin.) thick, fistulose, slender, flexuous, *smooth, dark blue, the incomplete ring distant.* **Gills** adnate, broad, brown-cinnamon.

In stature and colours it is widely removed from *A. albo-cyaneus*.

In pastures. Walthamstow, 1868. Dec.

Spores 4×7 mk. *W.G.S.* Name—after Worthington G. Smith. *Fr. Hym. Eur. p.* 286. A. albo-cyaneus *Saund. & Sm. t.* 29. *f.* 1–5.

** *Merdarii.* Ring often incomplete.

702. A. merdarius Fr.—**Pileus** 5 cent. (2 in.) broad, *yellow then straw-colour*, fleshy, at the first obtusely campanulate, then convexo-plane, gibbous, smooth, pelliculose, *moist, hygrophanous, slightly viscid*, margin thin, deflexed, even; flesh white. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, tough, *stuffed with a pith*, equal, somewhat flexuous, *everywhere flocculoso-villous and slightly silky, dry*, straw-white, white-villous at the base, striate at the apex from the decurrent teeth of the gills. Ring *incomplete* and torn, for the most part *commonly adhering to the margin of the pileus.* **Gills** *adnato-decurrent*, somewhat crowded, plane, 6 mm. (3 lin.) broad, soft, very broad behind, at first pallid, somewhat isabelline, at length brown-fuscous with the black-fuscous spores.

Gregarious, somewhat cæspitose. The stem has been observed fuscous internally when old. There is a smaller form, with the stem 2.5 cent. (1 in.) long.

On horse-dung. Sibbertoft, &c. Oct.

Spores 6×9 mk. *W.G.S.* Name—*merda*, dung. *Fr. Monogr.* i. *p.* 415. *Hym. Eur. p.* 286. *Icon. t.* 130. *f.* 3 larger form. *B. & Br. n.* 1255. *Saund. & Sm. t.* 25 *lower fig.* (smaller form). *Buxb. c.* 4. *t.* 16. *f.* 2.

Stropharia. **703. A. stercorarius** Fr.—**Pileus** 2.5 cent. (1 in.) broad, yellow, fleshy, but thin at the margin, hemispherical then expanded, obtuse, orbicular, *pelliculoso-viscous*, naked, smooth, even, or at length slightly striate only at the margin. **Stem** 7.5 cent. (3 in.) and more long, 4–6 mm. (2–3 lin.) thick, *stuffed with a separate fibrous pith*, equal, *clothed* to the ring (which is scarcely 2.5 cent., 1 in., distant from the pileus, viscous, narrow, but somewhat spreading) *with the flocculose veil which is at the same time viscous* (so that it appears as if smooth), yellow. **Gills** adnate, very broad behind, 4 mm. (2 lin.) broad, somewhat crowded, *umber-fuscous or olivaceous-fuscous*, of one colour, quite entire.

Stem silky-viscous when moist, when dry becoming even, shining and yellowish-white, and without a manifest veil. The gills are truncate and somewhat decurrent. It is often confounded with *A. semiglobatus; Sow. t.* 249 seems to have this in view.

On dung. Common. Aug.–Nov.

Spores 17×13 mk. *W.G.S.* Name—*stercus*, dung. *Fr. Monogr.* i. *p.* 416. *Hym. Eur. p.* 287. *Berk. Out. p.* 168. *C. Hbk. n.* 400. *S. Mycol. Scot. n.* 372. *Bull. t.* 566. *f.* 4.

704. A. semiglobatus Batsch.—**Pileus** commonly 12 mm. (½ in.) broad, *light yellow*, slightly fleshy, *hemispherical* not expanded, very obtuse, even, *viscous*. **Stem** about 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick, *fistulose, tense and straight*, equal, even, *smooth*, becoming yellow, paler at the apex, black-pruinate with the spores, otherwise smeared with the glutinous veil which is abrupt above terminating in an *incomplete* (not membranaceous) viscous distant *ring*. **Gills** adnate, very broad, plane, *clouded with black*.

Spores fuscous-purple. Gregarious, smaller and more slender than *A. stercorarius*, &c.

On dung. Common. April–Nov.

Regarded as poisonous. Spores 13×8 mk. *W.G.S.* Name—*semi*, half; *globus*, a ball. Hemispherical. *Batsch f.* 110. *Fr. Monogr.* i. *p.* 416. *Hym. Eur. p.* 287. *Berk. Out. p.* 169. *C. Hbk. n.* 401. *S. Mycol. Scot. n.* 373. *Grev. t.* 344. *Hussey* i. *t.* 39. A. glutinosus *Curt.* i. *t.* 194.

B. Spintrigeri. *Pileus without a pellicle, &c.*

705. A. caput-Medusæ Fr.—**Pileus** about 7.5 cent. (3 in.) broad, fleshy, at first ovate then convexo-expanded, obtuse or obtusely umbonate from the apex of the stem, *dry;* when young very densely scaly-squarrose with the veil, but soon naked; *even and umber on the vertex*, lacunose, paler, somewhat tan-colour

towards the margin. **Stem** 5–7.5 cent. (2–3 in.) long, 12 mm. (½ in.) and more thick at the base, *hollow, the somewhat bulbous base solid,* equally attenuated upwards, whitish; *covered over below the* superior *ring* with *crowded,* imbricated and squarrose, whitish-fuscous *scales, white-mealy above it.* **Gills** adnate, ventricose, lanceolate or at length semi-ovate, 4–6 mm. (2–3 lin.) broad, fragile, not very crowded, at first clay-white, *then pale umber,* fuscous-spotted in appearance. Stropharia.

The vertex of the pileus at length becomes rimosely warty, the circumference rimosely scaly, and the thin margin rimosely split. The universal floccoso-scaly, fuscous veil, which at first encircles the whole plant, remains persistent on the stem, forming concentric, imbricated, squarroso-recurved zones, but soon separates from the pileus. It is separate from the partial veil or ring which is superior, membranaceous, pendulous, white, with the margin very much swollen floccose and fuscous. The gills at first sight appear as if free. *Spores fuscous-purple.* Slightly firm, though at the same time fragile.

About Scotch fir stumps. Very rare. Glamis. Sept.

Between the peculiar umber disc and the rest of the pileus which is paler, tan-coloured, there is sometimes a marked circular depression. The disc is very soon naked, and becomes broken into granulose warts, leaving the rest of the pileus clothed with the peculiar blackish scales which look like sharp-pointed tufts. These soon vanish while the stem remains clothed. This very striking species has appeared in the only British station in the years 1874, 1875, 1883. Name—*Medusa's head.* From the scales on the pileus. *Fr. Monogr.* i. *p.* 418. *Hym. Eur. p.* 288. *Icon. t.* 131. *f.* 3. *B. & Br. n.* 1536. *S. Mycol. Scot. n.* 374.

706. A. scobinaceus Fr.—**Pileus** at first fuscous, livid then becoming yellow in the centre, grey-violaceous at the circumference, fleshy, thin, hemispherical then expanded, gibbous, slightly sulcate, covered with *crowded, adpressed, separating, blackish squamules.* **Stem** *hollow,* attenuated from the thickened (solid?) base, fibrillose, white, mealy at the apex. Ring *superior, fugacious,* white. **Gills** adnate, crowded, crenulated, *white-flesh-colour then becoming purple.*

Manifestly allied to *A. caput-Medusæ,* though less handsome; moist and more fragile; cæspitose.

On or near stumps. Rare. Glamis. Dun. Sept.–Oct.

The type of this species is nearly of the same stature as *A. caput-Medusæ,* but the whole plant is thinner, more fragile, and less handsome. There are various intermediate forms which seem to connect the two, combining features of both. I have found several well-marked stages between them. Spores ellipsoid-elongate, 7–8 × 3 mk. *C.B.P.* Name—*scobis,* sawdust or filings. As if sprinkled with sawdust. From the scales. *Fr. Monogr.* i. *p.* 419. *Hym. Eur. p.* 288. *B. & Br. n.* 1660. *S. Mycol. Scot. n.* 375.

707. A. Jerdoni B. & Br.—**Pileus** 5 cent. (2 in.) broad, ochraceous (brown when dry), fleshy, campanulate, obtuse, with a broad

Stropharia. umbo, minutely rivulose, adorned with superficial evanescent snow-white scales; cuticle not peeling off. **Stem** 7.5 cent. (3 in.) long, 4–6 mm. (2-3 lin.) thick, hollow, cylindrical, snow-white, pulverulent above, brownish with silky transverse scales below. Ring superior, deflexed. **Gills** adnate, sending a line down the stem, but not truly decurrent, pallid then brown, transversely striate.

Spores dark brown. Allied apparently to *A. caput-Medusæ*. It has a close analogy with *A. ægerita*, &c.

On fir-stumps. Rare. Sept.–Nov.

Name—after Archibald Jerdon. *B. & Br. n.* 913. *t.* 14. *f.* 2. *C. Hbk. n.* 393. *S. Mycol. Scot. n.* 376. *Fr. Hym. Eur. p.* 289.

Hypholoma. *Subgenus XXXI.* **HYPHOLOMA** (ὑφή, web; λῶμα, fringe). Fr. Syst. Myc. i. p. 287. *Hymenophore continuous* with the stem. *Veil woven into a web which adheres to the margin of the pileus.* Pileus more or less fleshy, the margin at the first incurved. Gills adnate or sinuate. *Fr. Hym. Eur. p.* 290.

XXXII. Agaricus (*Hypholoma*) *fascicularis*. One-fourth natural size.

Hypholoma corresponds with *Tricholoma*, *Entoloma*, and *Hebeloma*. The veil which is woven into a spidery web does not form a ring. *Cæspitose, growing on wood.* The species are not edible, the tough ones being bitter, and the fragile ones almost devoid of flesh.

* Fasciculares (*A. fascicularis*). *Colour of the tough, smooth, dry* (except *A. silaceus*) *pileus bright, not hygrophanous.*

** Viscidi (*viscidus*, viscid). *Pileus naked, viscous.*

*** Velutini (*A. velutinus*). *Pileus silky with innate fibrils or streaked.*

**** Flocculosi (*floccus*, a lock of wool). *With floccose, superficial separating scales.*

***** Appendiculati (*A. appendiculatus*). *Pileus smooth, hygrophanous.*

* Fasciculares. *Colour of the tough, smooth, dry (except A. silaceus) pileus bright, not hygrophanous.*

708. A. silaceus Pers.—**Pileus** 7.5 cent. (3 in.) broad, orange-rufous, fleshy, convex, viscous, silky and whitish round the

margin. **Stem** 7.5 cent. (3 in.) long, stuffed then hollow, *bulbous*, shining, fibrilloso-striate. **Gills** adnate, crowded, grey then olivaceous. Hypholoma

Solitary, according to Secretan cæspitose from a common tuber.

In old pasture. Glamis, 1874. Aug.

Smell resembling that of meal. Spores pale purplish-brown, *B. & Br.* It seems to be separated from any of the forms of *A. sublateritius* by its viscous pileus (an exception in this group). Name—*sil*, yellow ochre. Ochrey. *Pers. Syn. p.* 421. *Fr. Hym. Eur. p.* 290. *B. & Br. n.* 1498. *S. Mycol. Scot. n.* 377. *Batt. t.* 22. *E.*

709. A. sublateritius Schæff.—**Pileus** tawny-brick-red, but paler round the margin and covered over with a superficial, somewhat silky, whitish cloudiness (arising from the veil), fleshy, convexo-plane, obtuse, *discoid*, *dry*, even, *becoming smooth;* flesh *compact*, white then becoming yellow. **Stem** 7.5–10 cent. (3–4 in.) long, 6–10 mm. (3–5 lin.) thick, *stuffed stout* and firm, commonly manifestly attenuated downwards, rarely equal, *scaly-fibrillose*, fibrils pallid, ferruginous downwards. Cortina superior, at first *white*, *at length becoming black*. **Gills** adnate, more or less crowded according to stature, narrow, at first *dingy yellowish* and darker at the base, *then fuliginous*, and at length inclining to olivaceous.

Spores fuscous-purple. Somewhat cæspitose. Stem incurved from position. There are many varieties: B. somewhat solitary, the pileus and stem, which is thickened at the base, of the same colour, rufescent, *Paul. t.* 109. C. smaller, pileus light yellowish, the hollow stem equal. *Schæff. t.* 49. *f.* 4, 5.

On old stumps. Common. April–Dec.

Pileus 5–7.5 cent. (2–3 in.) and more broad. Veil adhering in fragments to the margin. Stem at length fistulose, but the walls are as thick or twice as thick as the diameter of the canal. Taste very bitter; doubtless poisonous. The smaller var. referred to by Fries has been named by Berkeley and Broome var. Schæfferi *Schæff. t.* 49. *f.* 4, 5, and described thus,—"Pileus conical, at length depressed, wrinkled; gills narrow, decurrent, even in the youngest specimens." Coed Coch, 1878. Spores 6 × 3 mk. *W.G.S.* Name—*sub*, and *later*, a brick. Somewhat brick-coloured. *Schæff. t.* 49. *f.* 6, 7. *Fr. Monogr.* i. *p.* 421. *Hym. Eur. p.* 290. *Berk. Eng. Fl.* v. *p.* 110. *Out. p.* 169. *C. Hbk. n.* 402. *S. Mycol. Scot. n.* 378. *Hussey* i. *t.* 60. *Krombh. t.* 44. *f.* 1–3. *Hedw. Crypt. t.* 38. Var. Schæfferi *B. & Br. n.* 1768.

710. A. capnoides Fr.—**Pileus** 2.5 cent. (1 in.) sometimes 7.5 cent. (3 in.) broad, *ochraceous-yellowish*, fleshy, convex, then flattened, obtuse, dry, *smooth;* flesh somewhat thin, white. **Stem** 5–7.5 cent. (2–3 in.) long, 4–8 mm. (2–4 lin.) thick, growing together at the base, *hollow*, equal, often curved and flexuous, *becoming silky-even*, pallid, whitish at the apex, here and there striate, becoming ferruginous under the surface-covering when

Hypholoma. old. Cortina appendiculate, white, then becoming fuscous-purple. **Gills** adnate, easily separating, somewhat crowded, rather broad, arid, *at first bluish-grey then becoming fuscous-purple.*

Cæspitose, fasciculate; odour and taste mild.

On pine-stumps. Uncommon. April–Dec.

Spores ellipsoid-sphæroid, 7×5 mk. *K.* Name– καπνός, smoke; εἶδος, appearance. From the smoky gills. *Fr. Monogr.* i. *p.* 421. *Hym. Eur. p.* 291. *Icon. t.* 133. *f.* 1. *B. & Br. n.* 913*. *C. Hbk. n.* 403. *S. Mycol. Scot. n.* 379.

711. A. epixanthus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, light yellow or becoming pale, the disc commonly darker, fleshy, moderately thin, convexo-plane, obtuse or gibbous, even, *slightly silky then becoming smooth;* flesh white, becoming light yellow. **Stem** about 7.5 cent. (3 in.) long, 6–8 mm. (3–4 lin.) thick, *hollow*, attenuated from the thickened base or equal, *floccoso-fibrillose*, *pale-ferruginous* or becoming fuscous *below*, pruinose at the apex. Cortina appendiculate, white. **Gills** adnate, crowded, *at first light yellow-white, at length becoming cinereous*, not deliquescent, and not becoming purple or green.

Strong-smelling, odour acid; extremely variable in stature. Not hygrophanous.

On fir-stumps. Frequent. Aug.–Dec.

Easily known by the absence of the bitter taste, and cinereous tint of the gills. *B. & Br.* Name—ἐπί, and ξανθός, yellow. Yellowish. *Fr. Monogr.* i. *p.* 422. *Hym. Eur. p.* 291. *Icon. t.* 133. *f.* 2. *B. & Br. n.* 914. *C. Hbk. n.* 404. *S. Mycol. Scot. n.* 380. *Paul. t.* 107. *Batt. t.* 23. *D.*

712. A. elæodes Fr.—**Pileus** brick-red or tan, fleshy, rather plane, somewhat umbonate, *dry, smooth*, opaque; flesh yellow. **Stem** stuffed then hollow, equal, commonly slender, incurved or flexuous, fibrillose, of the same colour as the pileus, becoming ferruginous. **Gills** adnate, crowded, thin, *green then* pure olivaceous.

Cæspitose; odour bitter.

On trunks and on the ground. Slough, 1873.

Name—ἔλαιος, olive; εἶδος, appearance. From the olive colour of the gills. *Fr. Hym. Eur. p.* 291. *B. & Br. n.* 1419.—A) pileus brick-red. *Paul. t.* 108. B) pileus tan. *Bull. t.* 30. *Larbr. t.* 16. *f.* 2 but the stem is figured as hirsute.

713. A. fascicularis Huds.—**Pileus** *light yellow*, the disc commonly darker, fleshy, thin, convex then flattened, somewhat umbonate or obtuse, even, smooth, dry; *flesh light yellow.* **Stem** very variable in length, hollow, thin, incurved or flexuous, fibril-

lose, of the same colour as the pileus and flesh. **Gills** adnate, very crowded, linear, *somewhat deliquescent, sulphur-yellow then becoming green.* Hypholoma

It is very easily distinguished from the preceding species by its *bitter odour and taste, light-yellow flesh, and somewhat deliquescent, sulphur-yellow then green gills.* It forms also more crowded clusters. There are many remarkable varieties; one *robustior* (more robust), stem thickened at the base, another *nana* (dwarf), both on the ground.

On old stumps and the ground. Extremely common. April–Dec.

Pileus about 5 cent. (2 in.) broad; stem 5–22.5 cent. (2–9 in.) long, 4 mm. (2 lin.) thick, but very variable in the same cluster. With portions of the veil often adhering to the margin of the pileus. Poisonous. Spores sphæroid-ellipsoid 6–7×4 mk. *K.*; 6×4 mk. *W.G.S.* Name—*fasciculus*, a small bundle. Cæspitose. *Huds.—Fr. Monogr.* i. *p.* 422. *Hym. Eur. p.* 291. *Berk. Out. p.* 169. *t.* 11. *f.* 1. *C. Hbk. n.* 405. *S. Mycol. Scot. n.* 381. *Bolt. t.* 29. *Sow. t.* 285. *Grev. t.* 329. *Hussey* ii. *t.* 15. *Fl. Dan. t.* 2075. *Krombh. t.* 44. *f.* 4-5.

714. A. dispersus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, *tawny-honey-colour*, not hygrophanous, *slightly fleshy*, campanulate then convex, at length expanded, even, *superficially silky round the margin* with the veil, or squamulose, otherwise even and smooth; flesh thin, a little paler than the pileus. **Stem** 5 cent. (2 in.) or a little more long, 4 mm. (2 lin.) thick, fistulose, equal, *tense and straight*, tough, *fibrilloso-silky*, somewhat ferruginous, becoming fuscous at the base, pale at the apex. **Gills** adnate, thin, *ventricose, broad* (6–8 mm., 3–4 lin.), *crowded, at first pallid-straw-colour, at length clouded*, obsoletely green.

Gills broader than in *A. fascicularis*, &c. Solitary, scarcely ever cæspitose.

On pine-stumps and the ground. Frequent. April–Nov.

Name—*dispergo*, to scatter. From its habit of growth. *Fr. Monogr.* i. *p.* 422. *Hym. Eur. p.* 292. *Icon. t.* 133. *f.* 3. *B. & Br. n.* 794. *Berk. Out. p.* 169. *C. Hbk. n.* 406. *Illust. Pl.* 586. *S. Mycol. Scot. n.* 382. *Saund. & Sm. t.* 24. *f.* 1-3, stem much elongated.

** Viscidi. *Pileus naked, viscous.*

No British species.

*** Velutini. *Pileus silky or streaked with innate fibrils.*

715. A. storea Fr.—**Pileus** almost 7.5 cent. (3 in.) broad, pale fuscous then dingy isabelline, fleshy, convex, broadly umbonate, somewhat depressed round the umbo, the whole surface broken up *into longitudinally adnate* (rarely squarrose) *fibrils.* Cortina a prolongation of the fibrils of the pileus, appendiculate at the margin; flesh white, compact, but not thick. **Stem** 10–12.5 cent.

Hypholoma. (4–5 in.) long, 8 mm. (4 lin.) thick, *solid*, equal, round, even, *somewhat fibrillose*, pallid. **Gills** adnate *with a decurrent tooth*, in groups of 4–6, *becoming livid-cinereous, at length fuscous*, the edge, which is at first serrulated, white.

Spores fuscous, not fuscous-purple. Firm, *solitary and not hygrophanous*, in which it differs widely from *A. lachrymabundus*, &c. The habit is rather that of *Inocybe*.

On roots of trees. Very rare. Ascot. Perth Fungus Show. Sept.–Oct.

Gathered in England in 1873, in England and in Wales in 1874, and in Scotland in 1875. Spores 6×4 mk. *W.P.* Name—*storea*, a mat. From the texture of the pileus. *Fr. Monogr.* i. *p.* 423. *Hym. Eur. p.* 293. *B. & Br. n.* 1418. *S. Mycol. Scot. n.* 383. *Smith, Journ. Bot.* xiv. *t.* 176. *f.* 4.

716. A. lachrymabundus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, whitish when young, then fuscous, becoming pale round the margin, truly fleshy, but not compact, *convex*, obtuse, *piloso-scaly, the innate scales darker;* flesh white. **Stem** 5 cent. (2 in.) long, 6–8 mm. (3–4 lin.) thick, *hollow*, somewhat thickened at the base, *fibrilloso-scaly*, becoming fuscous-whitish. Cortina separate, fibrillose, appendiculate, *white*. **Gills** adnate, crowded, 6 mm. (3 lin.) broad, whitish then *fuscous-purple*, edge whitish and distilling drops in wet weather.

Spores *fuscous-purple*. From mutual pressure the pilei are often irregular. Very cæspitose, firm. It differs remarkably from *A. pyrotrichus*, &c., with which it has been confounded, in the fleshy and not hygrophanous pileus. A. lachrymabundus *Bull. t.* 525. *f.* 3 is A. pyrotrichus; *t.* 194 remains doubtful. It must not be confounded with *A. velutinus*.

On trunks and the ground. Uncommon. Sept.–Oct.

A form has occurred in which the broadly adnate gills remained persistently white. The edge was studded with beads of moisture as in the more ordinary condition, *B. & Br.* Frequently confounded with *A. velutinus*. Spores 9–11 mk. *B. & Br.* Name—*lachryma*, a tear. From the drops of moisture on the gills. *Fr. Monogr.* i. *p.* 423. *Hym. Eur. p.* 293. *Icon. t.* 134. *f.* 1. *Berk. Out. p.* 170. *B. & Br. n.* 1254*. *C. Hbk. n.* 407 *partly. S. Mycol. Scot n.* 384. *Hoffm. Ic. t.* 15. *f.* 3 (small).

717. A. pyrotrichus Holmsk.—**Pileus** 7.5 cent. (3 in.) broad, *fiery-tawny*, slightly fleshy, at first hemispherical, obtuse, then expanded, *densely clothed with somewhat adpressed tawny fibrils*, which are here and there fasciculate in the form of scales; flesh tawny. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, *hollow*, fibrous-soft, equal or not perceptibly thickened at the base, *fibrillose*, commonly slightly squarrose with small scales, *becoming tawny. Cortina tawny.* **Gills** *adnate*, somewhat crowded, broad, *at first pallid*, the flocculose edge white, *then becoming brown*, and at length free.

The colour is persistently tawny or fiery-tawny. Cæspitose, slightly firm, very striking. Hypholoma.

About roots of trees, beech, &c. King's Lynn. Glamis. Aug.–Oct.

Spores pip-shaped, 8×5 mk. *C.B.P.*; 14–19 mk. *M.J.B.* Name—πῦρ, fire; θρίξ, hair. From the fiery-coloured fibrils. *Holmsk. Ot.* ii. *t.* 35. *Fr. Monogr.* i. *p.* 424. *Hym. Eur. p.* 293. *S. Mycol. Scot. Supp. Scot. Nat.* 1885, *p.* 25. A. lachrymabundus *Bull. t.* 525. *f.* 3. *Krombh. t.* 42. *f.* 12–16.

718. A. velutinus Pers.—**Pileus** 5–10 cent. (2–4 in.) broad, *lurid when fresh*, becoming tawny when half dry, clay-isabelline when dry, *hygrophanous*, slightly fleshy, campanulate then expanded, at length obtusely umbonate, *not scaly*, but when young wholly adpressedly tomentose with fibrils, *at length becoming smooth* and even; flesh very thin, of the same colour, fragile. **Stem** when large 10–12.5 cent. (4–5 in.) long, 12 mm. (½ in.) and more thick, when smaller 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, *hollow*, equal, *fibrilloso-silky*, tomentose from the summit to the veil, *dingy-clay-colour*. Veil adhering chiefly to the margin of the pileus, woolly, *at first white*, then becoming black. **Gills** adfixed, but easily *separating* (almost free), broad (when larger 8–10 mm., 4–5 lin. broad), not much crowded, *at first inclining to fuscous*, with the edge white, then date-brown-fuscous, *dotted-black*.

Stature various, often very large. Somewhat cæspitose, somewhat fragile.

On old stumps. Common. July–Oct.

Spores 6×8 mk. *W.G.S.* Name—*vellus*, fleece. Velvety. *Pers. Syn. p.* 409. *Fr. Monogr.* i. *p.* 424. *Hym. Eur. p.* 293. *Berk. Out. p.* 170. *t.* 11. *f.* 2. *C. Hbk. n.* 408, *partly*. *S. Mycol. Scot. n.* 385. *Secr. n.* 399. *Inzeng. t.* 7. *f.* 2. A. lachrymabundus *Sow. t.* 41. Abnormal variations *Schæff. t.* 34. *Paul. t.* 55. *f.* 1.

Var. leiocephalus B. & Br.—Pileus hygrophanous, rugged, smooth except at the margin, where it is fibrillose, pallid as is the stem, whose apex is farinose.

Densely cæspitose; much smaller than the common form, but apparently a mere variety, though a very striking one from its smooth but very rugged disc. On old stumps. Sept. Name—λεῖος, smooth; κεφαλή, head. From its smooth pileus. *B. & Br. n.* 1009*.

**** Flocculosi. *Scales floccose, superficial, separating.*

719. A. cascus Fr.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, *livid-grey*, tan-whitish when dry, somewhat fleshy, oval then expanded, obtuse, smooth, when dry soft and slightly wrinkled, persistently even on the disc. **Stem** 7.5–10 cent. (3–4 in.) long, 4–6 mm. (2–3 lin.) thick, *hollow*, equal, *fibrillose, white*, delicately white-pul-

Hypholoma. verulent at the apex. Veil appendiculate at the margin of the pileus, squamulose, white. **Gills** rounded-adnexed, ventricose, as much as 8 mm. (4 lin.) broad, *arid*, fragile, *grey then black-fuscous*, edge whitish.

When young there are commonly *superficial, white, easily separating scales on the pileus*. Larger than *A. Candolleanus*, &c., gregarious, not cæspitose, very fragile.

In mountain wood. Rannoch.

Name—*cascus*, old, primitive. With the appearance of age. *Fr. Monogr.* i. *p.* 426. *Hym. Eur. p.* 294. *B. & Br. n.* 1537. *S. Mycol. Scot. n.* 386.

***** Appendiculati. *Pileus smooth, hygrophanous.*

720. A. lanaripes Cke.—**Pileus** 4–7.5 cent. (1½–3 in.) broad, pallid, disc often tawny or brownish, rather fleshy, margin thin, campanulate then expanded, hygrophanous, squamose with superficial scales from the breaking up of the cuticle; veil attached in fugacious patches. **Stem** 5–7.5 cent. (2–3 in.) long, white, hollow, fragile, somewhat fibrillose, tomentose at the base. **Gills** reaching the stem, crowded, whitish then purplish-brown.

Somewhat cæspitose. The margin of the pileus is purplish with a shade of pink derived from the dark gills beneath, the whole plant becoming dark brown on decay. The stem has white radiating hairs at the base. The gills are not ventricose.

On soil in conservatories. Rare. July.

Name—*lana*, wool; *pes*, a foot. Woolly-stemmed. *Cooke in Seem. Journ.* 1866, *p.* 63. *t.* 3. *f.* 2. *Hbk. n.* 410. *t.* 1. *f.* 3. *S. Mycol. Scot. n.* 387. *Fr. Hym. Eur. p.* 295.

721. A. Candolleanus Fr.—**Pileus** 5–10 cent. (2–4 in.) broad, date-brown then becoming white, vertex somewhat ochraceous, somewhat fleshy, acorn-shaped then campanulate, soon convex and at length flattened, obtuse and unequal, smooth, even; flesh thin, white. **Stem** 7.5 cent. (3 in.) long, 4–8 mm. (2–4 lin.) thick, fistulose, solid at the base, somewhat thickened, fibrillose, white, striate at the apex. Veil in the form of a cortina, appendiculate, white, at length becoming fuscous. **Gills** rounded-adnexed, then separating, crowded, violaceous then fuscous-cinnamon, the edge at the first whitish.

Readily distinguished from neighbouring species *by the gills being at first beautifully dark violaceous*, never flesh-coloured. Densely cæspitose, fragile, very hygrophanous.

On stumps and on the ground. Frequent. Aug.–Oct.

Pileus splitting at the margin and finally recurved, *W.G.S.* Name—after

De Candolle. *Fr. Monogr.* i. *p.* 426. *Hym. Eur. p.* 295. *Berk. Out. p.* 170. Hypholoma. *C. Hbk. n.* 409. *S. Mycol. Scot. n.* 388. *Saund. & Sm. t.* 34, *lower fig. Fl. Dan. t.* 774.

722. A. appendiculatus Bull.—**Pileus** 5–7.5 cent. (2–3 in.) broad, date-brown then tawny, becoming ochrey-pale when dry, fleshy-membranaceous, thin, ovate then expanded, at length flattened, obtuse, smooth, when dry slightly wrinkled, somewhat sprinkled with atoms. **Stem** 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose, equal, smooth, white, *pruinate at the apex.* Veil fringing the margin of the pileus, fugacious, white. **Gills** somewhat adnate, crowded, *arid*, *white* then flesh-coloured, at length fuscous.

Densely cæspitose, very fragile and hygrophanous. Much thinner and more fragile than *A. Candolleanus.* It may be safely distinguished from species which are nearest to it by the *gills* being *whitish then fuscous-flesh-colour.*

On old stumps. Common. June–Oct.

Var. lanatus. A curious form, densely woolly when young, traces of the woolly coat remaining at the apex when the pileus is fully expanded. Sibbertoft. *B. & Br. n.* 1876. Spores ellipsoid, pellucid, 6–8 × 3–4 mk. *K.*; 4 × 6 mk. *W.G.S.* Name—*appendicula*, a small appendage. From the fragments of the veil hanging on the edge of the pileus. *Bull. t.* 392. *Fr. Monogr.* i. *p.* 427. *Hym. Eur. p.* 296. *Berk. Out. p.* 170, *t.* 11. *f.* 3, 4. *C. Hbk. n.* 411. *S. Mycol. Scot. n.* 389. *Sow. t.* 324.

723. A. leucotephrus B. & Br.—**Pileus** 7.5 cent. (3 in.) broad, at the first pallid, somewhat campanulate, wrinkled, then convexo-expanded, whitish. **Stem** 10 cent. (4 in.) long, $\frac{5}{12}$ in. thick, fistulose, *silky-fibrillose* downwards, striate or sulcato-striate at the apex. Ring large, here and there appendiculate. **Gills** slightly adnate, narrow, 3 mm. (1½ lin.) broad, at the first cinereous-whitish, then grey turning black.

Cæspitose. Clearly different from *A. Candolleanus* and *A. appendiculatus* Fr. The pileus is not of a rich brown when young, nor are the gills when old at all brown.

At base of ash-trees. North Kilworth, 1870. Oct.

Spores very dark brown-purple, 7 × 4 mk. *B. & Br.* Name—λευκός, white; τεφρός, ash-coloured. Cinereous-white. *B. & Br. n.* 1256. *Fr. Hym. Eur. p.* 296.

724. A. egenulus B. & Br.—**Pileus** 4 cent. (1½ in.) broad, watery white, snow-white when dry, hemispherical, expanded, umbonate, but not decidedly rugose or atomate, quite smooth, even, except towards the edge, margin finely striate, appendiculate. **Stem** 5 cent. (2 in.) long, 3 mm. (1½ lin.) thick, fistulose, attenuated upwards or nearly equal, minutely adpressedly-scaly. **Gills** adnate, with a tooth, slightly ventricose, moderately distant, purplish umber with a white edge.

Hypholoma. The pileus is quite smooth as if delicately gummed. Spores brown-purple. Solitary. Has exactly the habit of *Schæff. t.* 205 (*A. cernuus*). The nearest ally is *appendiculatus.*

On the ground among grass. Apethorpe. May.

Name—*egenulus*, poor. Of appearance. *B. & Br. n.* 915. *C. Hbk. n.* 412. *Illust. Pl.* 605. *A. Fr. Hym. Eur. p.* 296.

725. A. pilulæformis Bull.—**Pileus** 2.5 cent. (1 in.) and more broad, fuscous when moist, dingy ochraceous when dry, somewhat membranaceous, *globose then expanded*, obtuse, even, smooth. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, fistulose, flexuous, smooth, white, *naked at the apex.* Cortina manifest, woven, in the form of a ring when young. **Gills** adnexed, *easily separating*, thin, narrow, *linear*, *arid*, white then cinereous, at length becoming fuscous.

It is as it were a very small form of *A. appendiculatus*, but it differs essentially in the *gills never turning flesh-colour.* Its mode of growth is almost that of *A. disseminatus*, very crowded and fragile.

On mossy trunks. Rare.

Berkeley is inclined to consider this the young state of *A. hydrophilus* Bull. t. 511. Name—*pilula*, a little ball; *forma*, form. From its shape. *Bull. t.* 112. *Fr. Monogr.* i. *p.* 428. *Hym. Eur. p.* 296. *B. & Br. n.* 1951.

Psilocybe. *Subgenus XXXII.* **PSILOCYBE** (ψιλός, naked; κύβή, head). Fr. Syst. Myc. i. p. 289. *No* manifest *veil*, at least not a woven one. Stem somewhat cartilaginous, rigid or tough, tubular, the tube hollow or stuffed, often rooting. Pileus more or less fleshy, smooth, the margin at first incurved. *Gills becoming fuscous or purple. Fr. Hym. Eur. p.* 297.

XXXIII. Agaricus (*Psilocybe*) *spadiceus.* One-third natural size.

Psilocybe corresponds with *Collybia, Leptonia*, and *Naucoria.* Nearly all the species grow on the ground, and are gregarious, here and there cæspitose. Inodorous. None are edible.

I. Tenaces (*tenax*, tough). Veil not essential, rarely conspicuous. Stem thick-skinned, flexile, most frequently coloured. Pileus with a pellicle, most frequently slightly viscid in wet weather, becoming somewhat pale. Colour of pileus bright.

Psilocybe.

* *Gills ventricose, not decurrent.*
** *Gills plane, very broad behind, somewhat decurrent.* Deconica *Worth. Smith.*
*** *Gills somewhat linear, ascending.*

II. Rigidi (*rigidus*, stiff). No veil. Stem rigid. Pileus scarcely with a pellicle, but the flesh most frequently scissile, hygrophanous. Gills adnexed, very rarely adnate. *Differing from* Psaliotæ and Hypholomata, *to which they are very similar, in having no partial veil at the first.*

I.—Tenaces. Veil not essential, &c.

* *Gills ventricose, not decurrent.*

726. A. ericæus Pers.—**Pileus** 2.5–4 cent. (1–1½ in.) and more broad, *tawny-ferruginous* when wetted, tawny-yellow when dry, fleshy but thin, convex then expanded, scarcely umbonate, even, smooth, commonly dry and shining, but *somewhat viscous* when wetted. **Stem** 7.5–10 cent. (3–4 in.) long, 4 mm. (2 lin.) thick, *fistulose*, tough, equal, somewhat smooth, but varying slightly silky, *becoming light yellow*, white-villous at the base. **Gills** *adnate*, 6–8 mm. (3–4 lin.) broad, plane, *somewhat distant*, pallid then *blackish*, pruinose (becoming olive when the pruina disappears) edge whitish.

Gregarious, tough, various in stature. There is a smaller variety with the pileus date brown.

In woods and pastures. Rare. July–Oct.

Name—*erica*, heath. Frequenting heathy ground. *Pers. Syn. p.* 413. *Fr. Monogr.* i. *p.* 430. *Hym. Eur. p.* 298. *Icon. t.* 136. *f.* 1. *B. & Br. n.* 149. *C. Hbk. n.* 416. *S. Mycol. Scot. n.* 390. A. clivulorum *Letell. t.* 676.

727. A. udus Pers.—**Pileus** 1–2.5 cent. (½–1 in.) broad, brick-tawny, becoming pale, slightly fleshy, convex then flattened, *more or less evidently umbonate*, smooth, even or when old slightly wrinkled. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) or a little more thick, *fistulose*, equal, *fibrillose*, *tawny-ferruginous*, paler at the apex. **Gills** adfixed, *ventricose*, *very broad*, *lax*, plane or convex, *pallid then becoming fuscous-purple.*

Not hygrophanous. Scattered, tough when young, slender. Very deceptive on account of the colour of the gills when sterile. Among Sphagna there is a var. with the pileus somewhat membranaceous, acutely conical, tawny, and the gills pallid because sterile.

In swampy places among *Sphagna*. Epping Forest, 1880. Nov.

Name—*udus*, moist. *Pers. Syn. p.* 414. *Fr. Hym. Eur. p.* 298. *Grevillea, vol.* ix. *p.* 93.

728. A. areolatus Klotsch.—**Pileus** 4–7.5 cent. (1½–3 in.)

Psilocybe. broad, ochraceous or fuscous, somewhat fleshy, convex, clothed with minute fibrils, *cuticle cracking into nearly equal square patches*. **Stem** 5–7.5 cent. (2–3 in.) long, 6 mm. (3 lin.) thick, hollow, generally thickened at the base, fibrillose, dirty white. **Gills** adnate, 4–6 mm. (2–3 lin.) broad, umber at length black, the edge white and beaded with drops of moisture.

In gardens. Glasgow Botanic Garden. Faldonside. May–Oct.

According to Klotsch there is a fugacious fibrous and membranaceous veil. Name—*areola*, a small patch. From the cuticle cracking into little squares. *Klotsch—Berk. Eng. Fl.* v. *p.* 112. *Out. p.* 172. *C. Hbk. n.* 414. *S. Mycol. Scot. n.* 391. *Fr. Hym. Eur. p.* 298.

729. A. agrarius Fr.—**Pileus** 2.5 cent. (1 in.) rarely 5 cent. (2 in.) broad, at first *white* and without lustre, by no means becoming pale but becoming cinereous in drying, *not hygrophanous*, slightly firm but slightly fleshy, convex, at length flattened, and then often umbonate, even, smooth; flesh firm, white, but not 2 mm. (1 lin.) thick. **Stem** 4–5 cent. (1½–2 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, equal, smooth, white. No veil conspicuous. **Gills** obtusely adnate, crowded when young, somewhat distant when the pileus is flattened, linear, *white*, at length fuscous.

Care must be taken not to suppose it belongs to *Leucospori* on account of the white gills.

About roots of decayed trees, &c. North Kilworth, 1870, &c. Sept.–Oct.

In colour the pileus somewhat resembles *Hygrophorus ovinus*, *B. & Br.* Name—*ager*, a field. *Fr. Monogr.* ii. *p.* 304. *Hym. Eur. p.* 299. *Icon. t.* 137. *f.* 1. *B. & Br. n.* 1257. *S. Mycol. Scot. n.* 392.

730. A. chondrodermus B. & Br.—**Pileus** 2.5 cent. (1 in.) broad, dark date-brown, fleshy, campanulate, very smooth with exception of the appendiculate margin, even, cracked here and there in different directions. Veil woven and jagged. Stem 5 mm. (2½ lin.) thick above, 6 mm. (3 lin.) at the base, fistulose, somewhat equal, paler than the pileus, fibrillose, squamulose at the base. **Gills** adfixed, separating, ventricose, margin white.

Spores 6 mk. long, half as much wide, purple-black, almost oblong. The pileus stains paper yellow.

In Scotch fir wood. Glamis, 1875. Sept.

It has occurred in different places in 1875 and 1877. Name—χόνδρος, cartilage; δέρμα, skin. Parchment-skinned. *B. & Br. n.* 1538. *S. Mycol. Scot. n.* 393. *C. Illust. Pl.* 606. *A.*

** *Gills plane, very broad behind, somewhat decurrent.* Psilocybe.

731. A. ammophilus Dur. & Mont.—**Pileus** somewhat fleshy, hemispherical then umbo-form. **Stem** at length soft, hollow, *buried* half-way up in the sand, *base clavate.* **Gills** somewhat decurrent with a tooth, smoky, black-pulverulent with the spores.

The affinity of this species is uncertain, but it is remarkable for the base of the stem being buried and clavate.

On sandy ground on the sea-shore. St Andrews, 1874. Sept.

Spores 12×8 mk. *B. & Br.* Name—ἄμμος, sand; φίλος, loving. *Expl. scient. Alg. t.* 31. *Fr. Hym. Eur. p.* 299. *B. & Br. n.* 1661. *S. Mycol. Scot. n.* 393. *C. Illust. Pl.* 606. *B.*

732. A. coprophilus Bull.—**Pileus** 2.5 cent. (1 in.) broad, *rufescent-tan,* slightly fleshy, *hemispherical then expanded,* umbonate, even, smooth, scarcely viscous. **Stem** short, 2.5 cent. (1 in.), somewhat fistulose, *at first containing a pith, shaggy-flocculose,* then elongated and becoming smooth, shining, 2 mm. (1 lin.) thick, attenuated upwards and *pruinate at the apex. Veil scarcely conspicuous.* **Gills** *somewhat arcuato-decurrent,* broad, crowded, livid then fuscous.

On dung. Rare. Autumn.

Pileus at first white and downy, clothed with little superficial scales, brown, at length smooth and umber, *M. J. B.* Name—κόπρος, dung; φίλος, loving. *Bull. t.* 566. *f.* 3. *Fr. Monogr.* i. *p.* 431. *Hym. Eur. p.* 299. *Berk. Out. p.* 171. *C. Hbk. n.* 434. *Illust. Pl.* 608. *A.*

733. A. bullaceus Bull.—**Pileus** 8–12 mm. (4–6 lin.) broad, dark (bay-brown) *tawny,* then ochraceous-brick and tan when dry, slightly fleshy at the disc, almost membranaceous at the margin, *hemispherical,* obtuse, then expanded, *umbonate, covered with a viscous separable pellicle,* smooth; margin at first even, appendiculate with the veil, *then striate* and naked. **Stem** 2.5 cent. (1 in.) or little more long, 2 mm. (1 lin.) thick, *fistulose,* equal or attenuated at the base, *furnished with a cortina when young* hence slightly *fibrillose,* slightly tawny then becoming yellow, *fuscous-ferruginous at the base.* **Gills** *adnate, in no wise decurrent, somewhat triangular,* plane, crowded, livid-whitish then fuscous-ferruginous.

The spores are purple-lilac on a black ground like those of *A. coprophilus.* Gregarious, beautiful.

On dung, chiefly horse. Frequent. Aug.–Sept.

Spores sphæroid-ellipsoid, 6–10×4–7 mk. *K.*; 11×7 mk. *W.G.S.* Name—*bulla,* a knob. Furnished with an umbo. *Bull. t.* 566. *f.* 2. *Fr. Monogr.* i.

Psilocybe. *p.* 431. *Hym. Eur. p.* 299. *Berk. Out. p.* 172. *C. Hbk. n.* 435. *Illust. Pl.* 608. *B. S. Mycol. Scot. n.* 395.

734. A. physaloides Bull.—**Pileus** 7.5–10 cent. (3–4 in.) broad, *fuscous-purple*, slightly fleshy, *campanulate then expanded* and at length flattened, *with a prominent umbo*, and at length depressed round the umbo, smooth, even, *pelliculoso-viscid*, shining. **Stem** 2.5 cent. (1 in.) and more long, *fistulose*, *filiform*, flexile, *adpressedly fibrillose*, *becoming pale*, *date-brown at the base*. Veil not manifest. **Gills** adnate, *somewhat decurrent*, crowded, equally attenuated from the stem, pallid ferruginous-fuscous.

Spores fuscous-purple, almost black on white paper, but violaceous-lilac on a black ground. Very much allied to *A. bullaceus* and *A. coprophilus*. *A. inquilinus* is easily confounded with it.

On dung, &c. Uncommon. Sept.

Spores 8 × 6 mk. *W.G.S.*; 12 × 7 mk. *B. & Br.* Name—φυσαλίς, a bladder; εἶδος, appearance. *Bull. t.* 566. *f.* 1. *Fr. Monogr.* i. *p.* 432. *Hym. Eur. p.* 300. *B. & Br. n.* 690. *Berk. Out. p.* 172. *C. Hbk. n.* 436. *Illust. Pl.* 609. *A. S. Mycol. Scot. n.* 396.

735. A. atro-rufus Schæff.—**Pileus** black-rufous or *purple-fuscous*, but becoming very pale when dry, slightly fleshy, *hemispherico-convex*, obtuse, smooth, *striate at the margin* when in fullest vigour, without striæ when dry. **Stem** thin, scarcely 2 mm. (1 lin.) thick, *fistulose*, equal, at first somewhat fibrillose, then smooth, pallid date-brown, slightly pruinate at the apex. **Gills** *adnate*, somewhat decurrent, *triangular*, plane, *umber* or purple-umber.

There are two forms: A. stem longer, fibrillose, pileus smaller. B. stem curt, scarcely 2.5 cent. (1 in.), smooth, pileus bullaceous.

In mixed wood. Glamis, 1876. Nov.

Spores ovoideo-sphæroid, 6–8 × 4–5.5 mk. *K.* Name—*ater*, black; *rufus*, red. *Schæff. t.* 234. *Fr. Monogr.* i. *p.* 433. *Hym. Eur. p.* 300. *B. & Br. n.* 1770. *S. Mycol. Scot. n.* 397.

736. A. nucisedus Fr.—**Pileus** light yellowish, slightly fleshy, convex, obsoletely umbonate, even, *slightly silky when dry*. **Stem** 2.5–5 cent. (1–2 in.) long, fistulose, slender, pallid, *somewhat attenuated downwards*, becoming fuscous, white-villous. **Gills** adnate, broad, plane, fuscous then umber-black.

Stem often pruinate at the apex. It differs from *A. atro-rufus* in its habitat being epiphytal, in the *stem being paler and tougher, attenuated downwards* and white-villous at the base, in the *pileus being somewhat umbonate slightly silky and becoming yellow when dry*, and in the *gills being scarcely decurrent*. Exactly the habit of *A. inquilinus*, but differing chiefly in the fuscous spores. A similar plant occurs on the nuts of hazel, but wholly umber, becoming clay-yellow when dry.

On beech-mast and among chips. West Farleigh, Kent. Psilocybe.

Name—*nux*, a nut; *sedeo*, to sit. Growing on nuts. *Fr. Hym. Eur. p.* 300. *Monogr.* i. *p.* 433. *B. & Br. n.* 1539. *C. Illust. Pl.* 609. *B.*

**** Gills somewhat linear, ascending.*

737. A. comptus Fr.—**Pileus** 2.5–4 cent. (1–1½ in.) broad, pallid then ochraceous, somewhat membranaceous, conical then expanded, *striate, sprinkled with shining spots*, somewhat crenulated at the margin. **Stem** 5 cent. (2 in.) long, 2 mm. (1 lin.) or little more thick, fistulose, flexuous, even, silky-shining. **Gills** adnate, ascending, distant, *rosy*-umber.

In woods among grass. Rare. Sept.–Oct.

Name—*como*, to ornament. Adorned. *Fr. Hym. Eur. p.* 301. *S. Mycol. Scot. n.* 398. A. comptulus *B. & Br. n.* 917. *t.* 14. *f.* 4, not Fr. *C. Hbk. n.* 415. *Illust. Pl.* 589. *A.*

738. A. semilanceatus Fr.—**Pileus** 12 mm. (½ in.) high not broad, various in colour, becoming yellow, green, fuscous, somewhat membranaceous, *acutely conical*, almost *cuspidate*, never expanded, but the margin when young at first bent inwards, *covered with a pellicle which is viscous and separable in wet weather*, slightly striate chiefly round the margin. **Stem** as much as 7.5 cent. (3 in.) long, scarcely 2 mm. (1 lin.) thick, fistulose and *containing a pith*, equal, more frequently *flexuous*, smooth, *capable of being twisted* round the finger, smooth, *becoming pale; furnished with a cortina when young*. **Gills** *ascending* into the summit of the cone, adnexed, almost *linear*, crowded, becoming purple-black.

Gregarious, very *tough*.

Pastures and roadsides, &c. Common. Aug.–Nov.

Spores ellipsoid, 9–16×4–9 mk. *K.*; 14×9 mk. *W.G.S.* Name—*semi*, half; *lancea*, a spear. Nearly spear-shaped. *Fr. Monogr.* i. *p.* 433. *Hym. Eur. p.* 301. *Berk. Out. p.* 172. *C. Hbk. n.* 417. *S. Mycol. Scot. n.* 399. *Sow. t.* 440. *f.* 1–3.

II.—Rigidi. Veil none. Stem rigid, &c.

739. A. spadiceus Fr.—**Pileus** 7.5–10 cent. (3–4 in.) broad, *date-brown-umber, becoming pale when dry*, fleshy, convex then plane, obtuse, even, smooth, moist (not viscid) in rainy weather, often broken up in cracks when dry; margin inflexed when young. **Stem** 7.5–10 cent. (3–4 in.) long, 6–10 mm. (3–5 lin.) thick, firm, somewhat cartilaginous, hollow, equal, often curved,

Psilocybe. smooth, whitish, not striate at the apex. **Gills** *rounded-adnexed, crowded,* arid, whitish, then flesh-colour, at length umber.

It is most certainly different from *A. appendiculatus*, which is of the same colour, in the *pileus and stem being rigid*, and in being *absolutely destitute of a veil.* It departs from all others in this section in the gills being *whitish then flesh-colour*, then fuscous. Forming large lax clusters.

On stumps, the ground, &c. Common. July–Nov.

Spores ellipsoid, 8–9 × 4–5 mk. *K.*; 8 × 6 mk. *W.G.S.* Name—*spadix*, a palm-branch. Date-brown. *Fr. Monogr.* i. *p.* 435. *Hym. Eur. p.* 302. *Berk. Out. p.* 171. *C. Hbk. n.* 418. *Illust. Pl.* 610. *S. Mycol. Scot. n.* 400. *Schæff. t.* 60. *f.* 4-6.

* **A. hygrophilus,** larger.—**Pileus** fuscous then tan, bullate. **Stem** 10–15 cent. (4–6 in.) long, somewhat fusiform-rooted. **Gills** *emarginate, deeply decurrent in the form of lines,* at length fuscous-umber.

On stumps. Oct. Glamis, 1874. Name—*ὕγρον*, moisture; *φίλος*, loving. *Fr. Hym. Eur. p.* 302. *Monogr.* i. *p.* 435. *B. & Br. n.* 1771. *S. Mycol. Scot. n.* 400.

740. A. cernuus Fl. Dan.—**Pileus** 2.5–6 cent. (1-2½ in.) broad, *livid inclining to pale when moist,* white when dry, hygrophanous, slightly fleshy, fragile, campanulate then flattened, obtuse, smooth (or atomate under a lens), slightly wrinkled when dry. **Stem** 5 cent. (2 in.) and more long, about 4 mm. (2 lin.) thick, *fistulose,* equal, round, rigid-fragile, *smooth, shining white, slightly mealy at the apex.* **Gills** *adnate,* at first linear, then ventricose, scarcely crowded, 2–4 mm. (1–2 lin.) broad, *at first white then cinereous-blackish.*

Pileus slightly pellucid-striate. Stem is *sometimes* curved, hence the pileus is nodding. The spores do not change to ferruginous. Solitary or gregarious, scarcely cæspitose.

On dead wood, chips, &c. Uncommon. Aug.–Dec.

Spores 6 × 8 mk. *W.G.S.* Name—*cernuo*, to fall head-foremost. From the nodding pileus. *Fl. Dan. t.* 1005. *Fr. Monogr.* i. *p.* 436. *Hym. Eur. p.* 302. *Berk. Out. p.* 171. *C. Hbk. n.* 419. *S. Mycol. Scot. n.* 401. *Schæff. t.* 205. *Paul t.* 110. *f.* 3.

741. A. hebes Fr.—**Pileus** 2.5 cent. (1 in.) broad, *lurid* when moist, pale when dry, hygrophanous, slightly fleshy, convex then expanded, obtuse, even, smooth, *slightly viscid* and slightly striate at the margin when moist, becoming even when dry. **Stem** 4–5 cent. (1½–2 in.) long, 4 mm. (2 lin.) thick, cartilaginous, rigid, fistulose, equal, even, smooth, *naked, becoming pale white.* **Gills** very broad behind, *triangular, wholly adnate, crowded,* arid, white then becoming fuscous.

It is best distinguished by the form of the gills. Commonly solitary, slightly rigid. Veil none. Psilocybe.

On grass among leaves near chestnut. Hothorpe, 1881. Nov.

Pileus at first obtuse, but in drying it becomes spuriously and minutely umbonate. Spores black purple, 18 mk. *B. & Br.* Name—*hebes*, blunt. Obtuse. *Fr. Monogr.* i. *p.* 437. *Hym. Eur. p.* 303. *Icon. t.* 137. *f.* 3 minor. *B. & Br. n.* 1952. *Pers. Myc. Eur.* 3. *t.* 28. *f.* 5, a little larger. *C. Illust. Pl.* 589. *B.*

742. A. fœnisecii Pers.—**Pileus** broad, *pale fuliginous fuscous or brown*, becoming pale, *fleshy* chiefly *at the disc*, campanulato-convex, obtuse, *dry*, smooth, slightly wrinkled in very dry weather. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, tense and straight, rigid-fragile, equal, *naked, rufescent*, at the first paler and white-pulverulent, somewhat pubescent. **Gills** adnate-but ventricose in front, *hence they appear broadly emarginate*, somewhat distant, not thin, inclining to fuscous, livid-fuscous at the sides, at length *umber*.

When half dry the disc of the pileus becomes pale. Veil none. In its whole nature it is widely removed from other species in this section; its *habit* is quite that of *Panæolus*, but the gills are not variegated and the spores are umber.

Pastures, roadsides, &c. Common. April-Sept.

Gregarious. Pileus 2.5–5 cent. (1–2 in.) broad, banded with various tints when losing its moisture. Attention must be paid to the colour of the spores, or it will be sought for amongst the *Panæoli*, *M.J.B.* Spores 11×7 mk. *W.G.S.* Name—*fœnisicia*, hay-harvest. From its occurring among meadow-grass, and from the season when first gathered. *Pers. Ic. descr. t.* 11. *f.* 1. *Fr. Monogr.* i. *p.* 437. *Hym. Eur. p.* 303. *Berk. Eng. Fl.* v. *p.* 112. *Out. p.* 171, *t.* 11. *f.* 5. *Hussey* i. *t.* 39. *C. Hbk. n.* 421. *Illust. Pl.* 590. *S. Mycol. Scot. n.* 402. *Buxb. C.* 4. *t.* 38. *f.* 1.

743. A. clivensis B. & Br.—**Pileus** 2.5 cent. (1 in.) broad, at first pallid brown, then pallid ochre inclining to white, somewhat hemispherical, even, sprinkled with shining particles; margin striated, not straight. **Stem** 4 cent. (1½ in.) long, 2 mm. (1 lin.) thick, fistulose, nearly equal, except at the very base where it is slightly clavate, somewhat silky. **Gills** broad, adnate, widely emarginate, ventricose in front, rather distant, umber, margin white.

Spores umber. Intermediate between *A. hebes* and *A. fœnisecii*, with the habit of the former.

On the ground. King's Cliffe, 1860. Oct.

Name—*clivus*, a slope, hill-side. *B. & Br. n.* 916. *t.* 14. *f.* 3. *C. Hbk. n.* 420. *Fr. Hym. Eur. p.* 303.

Psilocybe.

744. A. scobicola B. & Br.—**Pileus** white, convex, umbilicate, smooth. **Stem** fistulose, somewhat equal or dilated at the apex, fibrillose. **Gills** adnexed, broad.

On pine sawdust. Glamis, 1877. Nov.

Name—*scobis*, sawdust; *colo*, to inhabit. *B. & Br. n.* 1769. *S. Mycol. Scot. n.* 403. *C. Illust. Pl.* 607.

Psathyra.

Subgenus XXXIII. **PSATHYRA** (ψαθῦρός, friable). Veil none or only universal, and floccoso-fibrillose. Stem somewhat cartilaginous, fistulose with a tube, polished, *fragile*. Pileus conical or campanulate, *membranaceous, the margin at the first straight and adpressed to the stem.* Gills becoming purple or fuscous. *Slender, fragile, hygrophanous.* [The series of tough species does not exist among the Psathyræ; the analogous forms will be found among the tough species of Psilocybe.] *Some of the last species* of Hypholoma and Psilocybe *are very closely allied to them.* The *Coprinarii* are readily distinguished by the gills being white or cinereous then black, *not fuscous nor becoming purple. Fr. Hym. Eur. p.* 304.

XXXIV. Agaricus (Psathyra) bifrons. One-third natural size.

Psathyra corresponds with *Mycena, Nolanea, Galera,* and *Psathyrella.* All the species grow on the ground or on trunks.

I. Conopilei (κῶνος, a cone). *Pileus conico-campanulate; gills ascending, adnexed, often free.* Stem tense and straight, veil none. On the ground in grassy or damp places.

II. Obtusati (*A. obtusatus*). *Pileus campanulato-convex, flattened, smooth or atomate, gills plano- or arcuato-adfixed.* Veil none.

III. Fibrillosi (*A. fibrillosus*). *Pileus and stem at the first floccose or fibrillose from the universal veil.*

I.—Conopilei. *Pileus conico-campanulate, &c.*

745. A. conopileus Fr.—**Pileus** 2.5 cent. (1 in.) or a little more high and broad, whitish then becoming pale, somewhat membranaceous, *conico-campanulate*, scarcely expanded, obtuse, *even, smooth.* **Stem** 10–15 cent. (4–6 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, *attenuated upwards, tense and straight, polished,* smooth,

silvery-shining. Veil plainly awanting. **Gills** *adnexed in the top of the cone*, at first sight free, crowded, only slightly ventricose, *becoming fuscous-purple*. Psathyra.

Spores fuscous-purple. Fragile. *Large, striking*.

In gardens. Rare. Oct.

It has occurred with a distinct bulb, *B. & Br.* Name—*conus*, a cone; *pileus*, felt hat. With cone-shaped pileus. *Fr. Monogr.* i. *p.* 438. *Hym. Eur. p.* 304. *Berk. Out. p.* 173. *B. & Br. n.* 2010. *C. Hbk. n.* 422. *S. Mycol. Scot. n.* 404. *Hoffm. Ic. f.* 2. A. superbus *Fungh. Linn. t.* 6. *f.* 11.

746. A. mastiger B. & Br. — **Pileus** about 2.5 cent. (1 in.) broad, dark rich brown when moist, umber-tan when dry, somewhat fleshy, at first nearly cylindrical, obtuse, then conico-campanulate, with a strong mammiform umbo, repand, not striate, margin straight. **Stem** 7.5 cent. (3 in.) or more long, 3–4 mm. (1½–2 lin.) thick, fistulose, attenuated upwards, white, smooth or fibrillose and furfuraceous, pale umber within. Veil none. **Gills** affixed, ascending, rather narrow, umber, edge paler.

As the plant dries the stem acquires the tint of the pileus, but pale. This fine species is allied to *A. conopileus*, but differs in many respects. The dark colour and mammiform apex are very striking.

On roadsides among grass. Apethorpe. Sept.

Name—*μαστός*, the breast. Bearing a breast-shaped umbo. *B. & Br. n.* 921. *t.* 14. *f.* 6. *C. Hbk. n.* 423. *Illust. Pl.* 591. *A. Fr. Hym. Eur. p.* 304.

747. A. corrugis Pers. — **Pileus** 1–4 cent. (½–1½ in.) broad, commonly *rose-colour* or pallid flesh-colour when moist, becoming pale when dry, somewhat membranaceous, fragile, *campanulate, somewhat umbonate*, smooth, slightly striate when moist, corrugated when dry. **Stem** 5–10 cent. (2–4 in.) long, 2 mm. (1 lin.) and more thick, fistulose, *tense and straight*, slightly firm; equal, *smooth, whitish or rufescent*. **Gills** *adnate*, or sinuato-adfixed, ventricose, distinctly violaceous then blackish.

There are many forms, such as with the pileus tan-colour, and reticulato-wrinkled with raised ribs. It is easily confounded with *A. gracilis*.

In pastures. Frequent. Sept.–Nov.

Spores subellipsoid, 13–14×7 mk. *K.*; 14×8 mk. *W.G.S.*; 13×5 mk. *W.P.* Name—*con*, and *ruga*, a wrinkle. With wrinkled folds. *Pers. Syn. p.* 424. *Fr. Monogr.* i. . 439. *Hym. Eur. p.* 305. *Berk. Out. p.* 173. *C. Hbk. n.* 424. *S. Mycol. Scot. n.* 405. *Holmsk. 2. t.* 32.—Lower in stature: A. vinosus *Corda, Sturm* 19. *t.* 4. *B. & Br. n.* 1952*. *C. Illust. Pl.* 592. —B. stature of A. gracilis: *Bull. t.* 561. *f.* 1.—A. pellospermus distinct from A. corrugis, according to Berkeley. *B. & Br. n.* 2012.

Psathyra.

II.—Obtusati. *Pileus campanulato-convex, &c.*

748. A. spadiceo-griseus Schæff.—**Pileus** 5 cent. (2 in.) and more broad, *date-brown when moist*, whitish-grey when dry, very hygrophanous, somewhat membranaceous, very fragile, campanulate then convex, and at length flattened, obtuse, smooth, even, but from its *moist* substance *pellucid-striate to the middle.* **Stem** 7.5 cent. (3 in.) long, 4 mm. (2 lin.) thick, fistulose, equal, whitish, *shining, striate at the apex*, sometimes *pulverulent.* **Gills** *attenuated behind*, hence adnexed only, *crowded, narrow*, at first ascending, then plane, umber-fuscous.

Solitary or gregarious; sometimes many stems are joined, but not growing together at the base. Watery, fragile. Veil none.

On wood. Frequent. Oct.–Nov.

Name—*spadix*, bay brown; *griseus*, grey. *Schæff. t.* 237. *Fr. Monogr.* i. *p.* 440. *Hym. Eur. p.* 306. *Berk. Out. p.* 173. *C. Hbk. n.* 426. *Illust. Pl.* 611. *S. Mycol. Scot. n.* 406. A. stipatus *Fl. Dan. t.* 1673. *f.* 2.

749. A. obtusatus Fr.—**Pileus** 2.5 cent. (1 in.) and more broad, date-brown-fuscous or *umber-fuscous*, paler at the margin, somewhat membranaceous, conical when young, then convex, at length *flattened*, obtuse, even at the disc, striate at the margin; flesh scarcely any, of the same colour. **Stem** 5–7.5 cent. (2–3 in.) long, 2–4 mm. (1–2 lin.) thick, fragile, fistulose, round, equal, *fibrillosо-silky*, not pulverulent, whitish, *even at the apex.* Veil none. **Gills** *adnate*, broad, distinct, *somewhat distant, cinereous-fuscous*, then umber.

Thin, rigid-fragile; single or cæspitose. In the colours and in the absence of a veil it approaches near to *A. spadiceus*, but is easily distinguished by its stature, by the nature of the stem, and by the gills never being flesh-colour.

On the ground and on wood. Rare. Aug.

Name—*obtusus*, blunt. Obtuse. *Fr. Monogr.* i. *p.* 441. *Hym. Eur. p.* 306. *B. & Br. n.* 918. *C. Hbk. n.* 427. *Illust. Pl.* 593. *S. Mycol. Scot. n.* 407. *Schæff. t.* 60. *f.* 1-3.—Var. minor: *Vaill. Par. t.* 12. *f.* 5, 6.

III.—Fibrillosi. *Pileus and stem at the first floccose, &c.*

750. A. bifrons Berk.—**Pileus** 18 mm. (¾ in.) broad, ochraceous-brown, tinged with red, pale-tan when dry, somewhat membranaceous, campanulate, obtuse, slightly wrinkled; margin thin, transparent. **Stem** 6 cent. (2½ in.) long, 2 mm. (1 lin.) thick, filiform, thickest at the base, straight, very brittle, naked, but very minutely satiny, not pulverulent. **Gills** adnate, moderately broad, pinkish-cinereous, margin white, composed of minute wavy teeth.

Spores brown-purple. Pileus clothed, when young, with a delicate evanescent veil. Psathyra.

Among sticks. Rare. Aug.–Sept.

Name—*bis*, and *frons*, front. With two faces. From the different colours. *Berk. Eng. Fl.* v. *p.* 114. *Out. p.* 173. *C. Hbk. n.* 425. *Illust. Pl.* 594. *S. Mycol. Scot. n.* 408. *Fr. Monogr.* ii. *p.* 347. *Hym. Eur. p.* 307. *Icon. t.* 138. *f.* 2. Var. semitinctus *Phill. C. Illust. Pl.* 594.

751. A. semivestitus B. & Br.—**Pileus** about 12 mm. (½ in.) broad, dark brown becoming pale, ovate, obtuse, sprinkled with little snow-white fibrils more than half-way up, not striate. **Stem** 5 cent. (2 in.) long, 3 mm. (1½ lin.) thick, fistulose, nearly straight, fibrilloso-silky, snow-white. **Gills** adnate, ascending, broad behind, umber-brown, tinged with the dark spores.

The stem is rather strong, white with a pale under-tinge of brown, and the walls within are white with down. Allied to *A. noli-tangere*, but distinct in character from all the neighbouring species.

Among grass in rich pasture. King's Cliffe, 1860. Oct.

Spores elongate pruniform, 14 mk. *Q.* Name—*semi; vestio*, to clothe. Half-clothed. From the fibrils on the pileus. *B. & Br. n.* 920. *t.* 14. *f.* 5. *C. Hbk. n.* 432. *Fr. Hym. Eur. p.* 307.

752. A. fibrillosus Pers.—**Pileus** 2.5 cent. (1 in.) and more broad, *livid or becoming white*, somewhat membranaceous, campanulate then convex, then flattened, obtuse, striate with the translucent gills, commonly smooth, sometimes at the first squamulose. **Stem** 7.5–10 cent. (3–4 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose, equal, clothed *throughout with fibrilloso-fasciculate, spreading, white squamules*, white. **Gills** *adnate*, broader behind, 6–10 mm. (3–5 lin.) broad, at length plane, cinereous then *becoming black-purple.*

Spores black-purple. Assuming many forms; always solitary. The typical form is *very fragile.*

On the ground in woods. Rare.

Name—*fibra*, a fibre. Covered with fibrils. *Pers. p.* 424 (fibrils becoming black, perhaps from the spores). *Fr. Monogr.* i. *p.* 442. *Hym. Eur. p.* 308. *Berk. Out. p.* 173. *C. Hbk. n.* 428. *C. Illust. Pl.* 595. *B.*

753. A. Gordoni B. & Br.—**Pileus** 4 cent. (1½ in.) broad, at first pale cinereous, then white, membranaceous, campanulate, sulcato-striate, sprinkled with white floccose scales. **Stem** 5 cent. (2 in.) long, 3 mm. (1½ lin.) thick, fistulose, brittle, transversely undulated, white-pruinose above, floccose below, but becoming at length smooth and shining. **Gills** narrowly ad-

Psathyra. nate, ascending, distant, moderately broad, scarcely ventricose, cinereous.

Densely cæspitose. Smell faint, nauseous. When young the whole plant is covered over with copious white flocci.

On old stumps. Orton Longueville, 1860, &c. Oct.

Name—after Marchioness of Huntly. *B. & Br. n.* 922. *t.* 15. *f.* 7. 1661*. *C. Hbk. n.* 433. A. aulacinus *Fr. Monogr.* ii. *p.* 348.

754. A. glareosus B. & Br.—**Pileus** 12 mm. (½ in.) broad, grey, pale chestnut at the apex, campanulate, obtuse or umbonate, striate, with flocci like little crumbs. **Stem** 2.5–5 cent. (1–2 in.) long, 2 mm. (1 lin.) thick, fistulose, clothed with white fibrils, brown. **Gills** broad behind, adnate, umber.

Pileus very minutely tomentose. Flesh brown, especially close to the gills. Spores black.

On gravelly soil after wet weather. Sibbertoft, 1882. June.

Name—*glarea*, gravel. Found in gravelly places. *B. & Br. n.* 2011. *C. Illust. Pl.* 591. *B.*

755. A. pennatus Fr.—**Pileus** 12 mm. (½ in.) high, and when at length expanded 2.5 cent. (1 in.) broad, inclining to livid then white, or becoming fuscous-brick when young, somewhat membranaceous, ovate then campanulate, not striate, but *for a long time and densely clothed with white plumose scales*, at length naked. **Stem** 2.5–4 cent. (1–1½ in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, equal, *villous*, white-pulverulent at the apex, silvery. **Gills** adnexed, crowded, ventricose, broad, livid then fuscous-blackish.

Gregarious, fragile, readily distinguished from neighbouring species by its *curt stature*; but there is an elongated variety. It has the appearance of *Coprinus cinereus*.

On naked soil and on burnt sawdust. Rare. June.

Name—*penna*, a feather. From the feathery scales. *Fr. Monogr.* i. *p.* 443. *Hym. Eur. p.* 308. *B. & Br. n.* 1010. *C. Hbk. n.* 430. *S. Mycol. Scot. n.* 409. *Quél. t.* 8. *f.* 3 (smaller, pileus naked).

756. A. gossypinus Bull.—**Pileus** ochraceous-clay, somewhat membranaceous, campanulate, expanded, *tomentose, soon becoming smooth, striate* at the margin. **Stem** *tomentose*, whitish. **Gills** adnexed, ventricose, white then fuscous-black.

Somewhat cæspitose, fragile. From its habit it was formerly referred to *Coprini*. Allied to *A. pennatus*, from which it differs chiefly in the *more tomentose covering* (veil), with which the young plant is densely wrapped round, and in the *ochraceous*-clay *colour*.

In woods, on the ground. Coed Coch, 1881. Oct. Psathyra.

Spores 10–13 mk. *B. & Br.* Name—*gossipium*, cotton. From its being downy or cottony. *Bull. t.* 425. *f.* 2 (large). *Fr. Hym. Eur. p.* 309. *Monogr.* i. *p.* 443. *Berk. Out. p.* 174. *B. & Br. n.* 1953. *C. Hbk. n.* 431. *Illust. Pl.* 612. *A. Bolt. t.* 71. *f.* 1.

757. A. noli-tangere Fr.—**Pileus** 2.5 cent. (1 in.) or less broad, when moist, pallid umber in larger specimens, dark fuscous in smaller, becoming pale when dry, very hygrophanous, membranaceous, campanulate then expanded, obtuse, *smooth with exception of separating squamules, striate throughout*, becoming even when dry. **Stem** about 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, fistulose, equal, somewhat naked, *even at the apex*. **Gills** adnate, broad, plane, sometimes pallid, somewhat dark fuscous.

Gregarious, very fragile. Stem often curved, becoming fuscous, darker towards the base. A universal veil covering the young plant has not been observed in this species, only *white, floccose squamules round the margin of the pileus*. The larger form on oak-chips, the smaller on damp shady ground.

Among moss, &c. Sibbertoft, 1881. Sept.

Spores 13 mk., more elongated than in *A. gossypinus, B. & Br.* Name—*touch-me-not*. From its very fragile nature. *Fr. Monogr.* i. *p.* 443. *Hym. Eur. p.* 309. *Icon. t.* 138. *f.* 3. *B. & Br. n.* 1954. *C. Illust. Pl.* 612. *B.* A. xylophilus *Sow. t.* 167, but the white scales are awanting.

758. A. microrhizus Lasch.—**Pileus** ochraceous or rufous-brown, becoming pale, membranaceous, campanulate, even, dry, shining with atoms, at the first *yellow-pilose*. **Stem** short, thin, *rooted, silky*, whitish. **Gills** adnexed, crowded, narrow, pallid then becoming black-brown.

Gregarious, fragile. At the first it is everywhere flocculose and somewhat furnished with a cortina. The spores are fuscous or black according to the ground on which they are deposited.

On the naked soil. Sibbertoft, 1881. Sept.

Varying in size from a few lines to 1¼ in., when it approaches the finer forms of *A. gossypinus, B. & Br.* Name—μικρός, small; ῥίζα, a root. With short root. *Lasch n.* 468. *Fr. Hym. Eur. p.* 309. *B. & Br. n.* 1955. *C. Illust Pl.* 596. *A.*

759. A. urticæcola B. & Br.—**Pileus** 4 mm. (2 lin.) broad, white, campanulate, flocculent; margin at length straight, striate. **Stem** short, fistulose, slender, attenuated upwards, flocculent, white. **Gills** ventricose in front, attenuated behind, adnexed, at first white, then of a rich chocolate.

Stem springing immediately from the matrix. Allied to *A. pennatus*.

On nettle-roots. King's Cliffe. Aug.

Name—*urtica*, nettle; *colo*, to inhabit. *B. & Br. n.* 919. *Fr. Hym. Eur. p.* 309. *C. Illust. Pl.* 596. *B.*

SERIES V. **COPRINARII** (*κόπρος*, dung.) Spores black, hence the gills, which are all *separate* from each other, never become purple or fuscous. The genus Coprinus is *readily distinguished by the gills cohering at first* (not separate) *and by their becoming fluid, &c. Fr. Hym. Eur. p.* 309.

Intermediate between *Agaricus* and *Coprinus*.

Panæolus.

Subgenus XXXIV. **PANÆOLUS** (*παναίολος*, all-variegated). Veil woven, often awanting. Stem polished, slightly firm. Pileus *slightly fleshy, without striæ, the margin exceeding the gills.* Gills ascending into the top of the cone, "papilionaceous" that is *variegated*, when young here and there somewhat pale yellowish in dry weather. *Commonly growing on dung. Fr. Hym. Eur. p.* 309.

The species will usually be found in rich places, near villages, &c., in summer and late autumn. None are edible.

XXXV. Agaricus (*Panæolus*) *separatus.* One-fourth natural size.

* *Pileus*, with a gelatinous-liquescent cuticle, *viscous, shining when dry.*

** *Pileus* (*damp*) *moist, opaque, bibulous, when dry somewhat flocculose.*

*** *Pileus dry, smooth, slightly shining, not zoned.*

**** *Pileus dry, smooth, zoned round the margin.*

* *Pileus viscous, shining when dry.*

760. A. separatus Linn.—**Pileus** 2.5 cent. (1 in.) high, clay-whitish, slightly fleshy, ovato-campanulate, obtuse, even, smooth, *viscous*. **Stem** as much as 20 cent. (8 in.) long, varying shorter, fistulose, tense and straight and rigid, slightly attenuated from the *thickened base*, almost 4 mm. (2 lin.) thick, whitish, even, striate under a lens, smooth, naked, black-pruinate above with the spores. Ring *distant, entire*, persistent, white. **Gills** adnate, but almost separating, ascending, 4–6 mm. (2–3 lin.) broad, cinereous-black.

A. major, pileus ovato-campanulate. *A. semiovatus Sow. t.* 131. A. cili-

aris *Bolt. t.* 53. B. minor, pileus campanulato-convex, yellowish; stem 5–7.5 cent. (2–3 in.) long. *Bull. t.* 84. Panæolus.

On dung. Common. April–Dec.

Pileus when dry shining as if oiled, and sometimes slightly wrinkled when old. Spores ellipsoid, 16–22 × 10–12 mk. *K.*; 16 × 11 mk. *W.G.S.* Name—*separatus*, distinct, separate. Not cæspitose. *Linn. Suec. n.* 1220. *Fr. Monogr.* i. *p.* 444. *Hym. Eur. p.* 310. *Berk. Out. p.* 174. *t.* 11. *f.* 7. *C. Hbk. n.* 437. *S. Mycol. Scot. n.* 410. *Price f.* 39. *Fl. Bat.* 820. *f.* 2.

761. A. leucophanes B. & Br.—**Pileus** 18 mm. (¾ in.) broad, white, here and there somewhat ochraceous, campanulate, obtuse, viscid, shining when dry, innately silky, appendiculate at the margin. **Stem** 5 cent. (2 in.) long, about 2 mm. (1 lin.) thick in the centre, fistulose, attenuated upwards, white, fibrillose, sprinkled with mealy particles, transversely somewhat undulated. **Gills** adnate, pallid grey-flesh-colour, then black, margin white.

Allied to *A. separatus*.

In grass fields. King's Cliffe. Aug.

Spores somewhat cymbiform, 9 mk. *B. & Br.* Name—λευκός, white; φαίνω, to appear. *B. & Br. n.* 1127. *t.* 11. *f.* 1. *Fr. Hym. Eur. p.* 310.

762. A. fimiputris Bull.—**Pileus** 2.5 cent (1 in.) broad, fuliginous-cinereous or livid, slightly fleshy, conical then expanded, somewhat gibbous, even, smooth, *viscid*. **Stem** 5–10 cent. (2–4 in.) long, 2 mm. (1 lin.) thick, fistulose, *equal*, smooth, *above the middle girt with an annular zone, becoming pale*. **Gills** adfixed, livid-blackish.

More slender and more fragile than *A. separatus*, with the ring incomplete, and the gills less ascending. There is also a variety, lower in stature, with the stem firmer, and the pileus more flattened and variable in colour.

On dung. Common. April–Nov.

Pileus generally beaded with the veil, *M.J.B.* Spores 7 × 8 mk. *W.G.S.* Name—*fimus*, dung; *putris*, rotten. *Bull. t.* 66. *Fr. Monogr.* i. *p.* 445. *Hym. Eur. p.* 310. *Berk. Out. p.* 174. *t.* 11. *f.* 6. *C. Hbk. n.* 439. *S. Mycol. Scot. n.* 411. *Bolt. t.* 57. *Batt. t.* 28. *P.*

763. A. phalænarum Fr.—**Pileus** clay-white, slightly fleshy, campanulato-convex, obtuse, even, smooth, *viscid, the appendiculate veil fugacious*. **Stem** equal, slightly firm, somewhat naked, pallid rufescent. **Gills** adnexed, broad, cinereous-black.

It is exactly intermediate between *A. separatus* and *A. papilionaceus;* it differs from the former in having the *stem ringless*, equal, *rufescent*, in the *veil* being *appendiculate* at the margin of the pileus, but fugacious so that commonly it seems to be awanting, and in the pileus being more convex; and from the latter in the veil, the viscous pileus, and the clay-white colour.

Panæolus. On dung. Apethorpe. Sept.

Name—φάλλαινα, a moth. Moth Agaric. From its likeness to *A. papilionaceus*. *Fr. Hym. Eur. p.* 310. *Monogr.* i. *p.* 445. *Berk. Out. p.* 175. *C. Hbk. n.* 440.—*Bull. t.* 58. *Paul. t.* 121. *f.* 1.

*** Pileus moist, when dry somewhat flocculose.*

764. A. retirugis Fr.—**Pileus** flesh-tan-colour, slightly fleshy, globose then hemispherical, somewhat umbonate, *reticulated with raised ribs, atomate, opaque*, appendiculate with the torn veil. **Stem** equal, pruinose, flesh-colour becoming purple. **Gills** adfixed, ascending, cinereous-blackish.

It has entirely the appearance of *A. corrugis*.

On dung. Uncommon. Aug.–Nov.

Spores elliptical, shortly fusiform, 20 mk. *Q.*; 16×11 mk. *W.G.S.* Name—*rete*, a net; *rūga*, a wrinkle. With network of wrinkles. *Fr. Hym. Eur. p.* 310. *Berk. Out. p.* 175. *C. Hbk. n.* 441. *S. Mycol. Scot. n.* 412. A. carbonarius *Batsch f.* 91.

765. A. sphinctrinus Fr.—**Pileus** 2.5 cent. (1 in.) high, fuliginous or fuliginous-grey when moist, *livid when dry*, hygrophanous, slightly fleshy, parabolic then campanulate, never expanded, obtuse, never viscous, always *opaque*, but moist in rainy weather, *somewhat silky when dry*. **Stem** 5–7.5 cent. (2–3 in.) long, 2 mm. (1 lin.) thick, fistulose, tense and straight, equal, fragile, smooth, *fuliginous-grey, even at the apex*, pruinose. *Veil appendiculate* round the margin of the pileus, fugacious, white. **Gills** adnate, ascending, crowded, cinereous-blackish, the edge of the same colour.

Sometimes and when in fullest vigour, the pileus is covered with fibrils, chiefly round the margin. There is a *very small* variety with the stem 2.5 cent. (1 in.) long, and linear gills. *Buxb. C.* v. *t.* 48. *f.* 2.

On dung. Glamis, 1876. Oct.

Name—σφιγκτήρ, a band, a muscle which remains naturally in a state of contraction. From its never becoming expanded. *Fr. Monogr.* i. *p.* 445. *Hym. Eur. p.* 311. *B. & Br. n.* 1662. *S. Mycol. Scot. n.* 413. *Quel. t.* 8. *f.* 5 (slender form).—*Batt. t.* 27. *L.*

**** Pileus dry, smooth, slightly shining, not zoned.*

766. A. campanulatus Linn.—**Pileus** 1–2.5 cent. (½–1 in.) high and broad, *fuscous-fuliginous, rufescent when dry*, slightly fleshy, campanulate at length convex, often umbonate, continuous (not cracked), dry, even, *somewhat shining*. **Stem** commonly 7.5 cent. (3 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, tense and straight,

even, smooth, *rufescent*, *striate* and at first pruinose *at the apex*, then *black-pulverulent* with the shed spores. **Gills** adnate, ascending, crowded, varying grey and black. Panæolus.

Veil very fugacious and often awanting. The edge of the gills commonly whitish. There is a very small variety. The stem in both forms is often sprinkled with small watery drops in rainy weather.

On dung and rich ground. Common. June–Nov.

Spores subellipsoid, 16–18 × 10–13 mk. *K.* Name—*campanula*, a little bell. Bell-shaped. *Linn. Suec.* 2. *n.* 1213. *Fr. Monogr.* i. *p.* 446. *Hym. Eur. p.* 311. *Berk. Out. p.* 175. *C. Hbk. n.* 442. *S. Mycol. Scot. n.* 414.—*Bull. t.* 561. *f.* 2. *L. Buxb. C.* iv. *t.* 13.—Major *Fl. Dan. t.* 1959.—Minor *Batsch f.* 6.

767. A. papilionaceus Fr.—**Pileus** pallid, slightly fleshy, hemispherical, smooth, *rimoso-scaly when dry*. **Stem** equal, even, *whitish*, white-pulverulent at the apex. **Gills** *broadly adnate, very broad*, at length plane, blackish.

It is certainly distinct from *A. campanulatus*, to which it is very much allied, in the following; stature in general smaller and firmer, *stem* even and *whitish, even and white-pulverulent at the apex; pileus hemispherical* (not campanulate), almost that of *A. semiglobatus*, commonly rimoso-scaly when dry, dry, pallid; gills *broadly adnate*, 6–8 mm. (3–4 lin.) broad (often broader than long), plane. In a very small form the stem is 2.5 cent. (1 in.) long, but the pileus is equally broad, in which it differs from the very small form of *A. campanulatus*.

On dung, &c. Common. July–Nov.

Name—*papilio*, a butterfly. Variegated. *Fr. Hym. Eur. p.* 311. *Monogr.* i. *p.* 446. *Berk. Out. p.* 175. *C. Hbk. n.* 443. *S. Mycol. Scot. n.* 415. *Bull. t.* 561. *f.* 2, *N.M.*

768. A. caliginosus Jungh.—**Pileus** brown, slightly fleshy, campanulate, obtuse, even, smooth. **Stem** equal, *even, naked, of the same colour* as the pileus. **Gills** slightly adnexed, ascending, lanceolate, fuliginous-black.

Small, slender. A very thin veil has been observed.

In rich pasture. Glamis, 1874. Oct.

Name—*caligo*, gloom, darkness. Dusky in colour. *Jungh. in Linn.* v. 5, *t.* 6. *f.* 13. *Fr. Hym. Eur. p.* 312. *B. & Br. n.* 1540. *S. Mycol. Scot. n.* 416.

**** *Pileus dry, smooth, zoned round the margin.*

769. A. subbalteatus B. & Br.—**Pileus** 4–5 cent. (1½–2 in.) broad, dull deep fawn-colour, pallid when dry, hygrophanous, rather fleshy, convex, with the margin slightly incurved, then expanded, obtuse or slightly umbonate, irregular, slightly wrinkled, marked near the margin with a dark narrow zone.

Panæolus. Veil none. **Stem** 5–6 cent. (2–2½ in.) high, 4 mm. (2 lin.) thick, red-brown, fistulose, brittle, stringy, splitting longitudinally, marked with short white fibrils. **Gills** adnate, slightly ventricose, brownish, margin white, slightly toothed.

Spores black. Cæspitose. Closely allied to *A. cinctulus* Bolt., but differing in habit and in many essential characters.

In a tare-field. Apethorpe, 1860. Sept.

Fries omits *A. cinctulus* Bolt. as he suspects the figure is incorrect. Name —*sub*, and *balteus*, a band or border. Somewhat banded. From the zone near the margin. *B. & Br. n.* 923. *C. Hbk. n.* 445. *Fr. Hym. Eur. p.* 312.

770. A. acuminatus Fr.—**Pileus** flesh-tan-colour, slightly fleshy, *conical, sharp-pointed,* even, smooth, shining, *zoned with a blackish line round the margin.* **Stem** 2.5 cent. (1 in.) long, thin, equal, *pruinose,* thickened at the base, of two colours, *pallid above, fuscous downwards.* **Gills** adnexed, ventricose, crowded, blackish.

Very much allied to *A. papilionaceus*, &c., but easily distinguished by the colour and shape of the pileus, &c. Pileus "tawny-violaceous": Secr. The margin of the pileus is at first crenulate.

On dung. Sibbertoft, 1870. Oct.

Name—*acuminatus*, sharp-pointed. From the pileus. *Fr. Hym. Eur. p.* 312. *Monogr.* i. *p.* 447. *B. & Br. n.* 1258. *Batt. t.* 22. *F. Schæff. t.* 202 differs in the long and dark stem, but the traces of a line are present.

771. A. fimicola Fr.—**Pileus** *fuliginous-grey when moist,* becoming clay-hoary when dry, slightly fleshy, campanulate then convex, *obtuse,* even, smooth, opaque, marked *round the margin with a narrow fuscous zone,* and inside this with a white one; flesh thin, grey-white. **Stem** 7.5–10 cent. (3–4 in.) long, 2 mm. (1 lin.) thick, fistulose, *soft-fragile,* equal, *becoming dingy pale,* obsoletely slightly silky-striate, white-pruinose at the apex. **Gills** adnate, slightly rounded, somewhat ventricose, broad (almost semi-ovate), variegated grey and fuliginous.

On dung, rich pasture, &c. Rare. Oct.

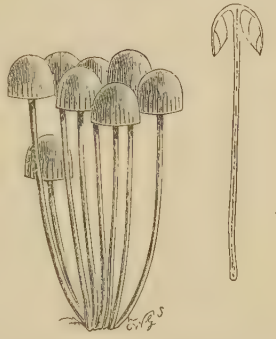
Name—*fimus*, dung; *colo*, to inhabit. *Fr. Monogr.* i. *p.* 447. *Hym. Eur. p.* 312. *Berk. Out. p.* 175. *B. & Br. n.* 1259 (a stouter form). *C. Hbk. n.* 446. *Buxb. C.* iv. *t.* 28. *f.* 4.—B more slender, A. varius *Bolt. t.* 66. *f.* 1.

Psathyrella. *Subgenus XXXV.* **PSATHYRELLA** (ψαθῠρός, fragile). Veil not woven, scarcely conspicuous. Pileus membranaceous, striate, margin not exceeding the gills. Gills equally black-fuliginous,

not variegated, and not becoming fuscous or purple. *In appearance wholly like Psathyra.* Spores black on a white ground, but in one or two species slightly fuscous when deposited on a black ground. *Fr. Hym. Eur. p.* 313. Psathyrella.

The straight margin of the pileus is adpressed to the stem. Thinner than *Psathyra.*

* *Stem tense and straight, smooth.*
** *Stem flexuous, pruinate at the apex.*



XXXVI. Agaricus (Psathyrella) disseminatus. One-half natural size.

* *Stem tense and straight, smooth.*

772. A. subatratus Fr.—**Pileus** 2.5 cent. (1 in.) high, and when expanded 5 cent. (2 in.) broad, *umber-rufescent,* pallid-rufescent when dry, membranaceous, campanulate, obtuse, smooth, even, slightly striate round the margin. **Stem** 10–12.5 cent. (4–5 in.) long, 2 mm. (1 lin.) and more thick, fistulose, tense and straight, equal, even, smooth, not pruinate, *becoming pale-white.* **Gills** adnexed in the top of the cone, adnate when the pileus is more expanded, linear, scarcely beyond 2 mm. (1 lin.) broad, crowded, fuliginous-blackish, almost umber, edge of the same colour.

Spores shining black. Gregarious, fragile. The above is the typical form. In an intermediate form the stem is shorter, 5–7.5 cent. (2–3 in.); in a smaller form the stem is only 2.5 cent. (1 in.), the pileus somewhat umbonate, fuliginous when moist, somewhat olivaceous, the gills ventricose, 4 mm. (2 lin.) broad.

On rich ground. Batheaston, 1869. Sept.

Spores pruniform, 12–15 mk. *Q.* Name—*sub,* and *ater,* dead black. Blackish. *Fr. Monogr.* ii. *p.* 305. *Hym. Eur. p.* 313. *B. & Br. n.* 1260.

773. A. gracilis Fr.—**Pileus** 1 2.5 cent. (½–1 in.) broad, *fuliginous,* livid, &c., when dry tan, rosy or whitish, hygrophanous, membranaceous, *campanulate,* obtuse, smooth, *even,* slightly and pellucidly-striate only round the margin. **Stem** 7.5 cent. (3 in.) and more long, scarcely 2 mm. (1 lin.) thick, fistulose, *remarkably tense and straight,* equal, naked, smooth, whitish, *not rooted, white-villous at the base.* **Gills** wholly adnate, commonly *broader* behind (rarely linear), almost *distant,* distinct, at first whitish, then cinereous-blackish with the black spores, *edge rose-coloured.*

Psathyrella. When dry the pileus is soft to the touch. Gregarious, fragile. Very similar to *A. corrugis*, and there is a variety corrugated.

Waysides, hedgerows, &c. Common. July–Oct.

Spores ellipsoid, 13–14 × 7–8 mk. *K.*; 5 × 12 mk. *W.G.S.* Name—*gracilis*, slender. *Fr. Monogr.* i. *p.* 448. *Hym. Eur. p.* 313. *Berk. Out. p.* 176. *C. Hbk. n.* 447. *S. Mycol. Scot. n.* 417. *Saund. & Sm. t.* 37. *f.* 1, 2.

774. A. hiascens Fr.—**Pileus** 2.5 cent. (1 in.) high, *livid then becoming yellow*, membranaceous, *conico-campanulate*, obtuse, smooth, *soon split and opening in furrows* (commonly to the middle), the divided margin at length revolute. **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) thick, fistulose, tense and straight, *rigid-fragile*, naked, smooth, *whitish*. **Gills** adnate, narrow, *linear* or somewhat attenuated in front, distinct, *distant*, whitish then shining black, at length very dead black.

Spores dead black. In the pileus opening into furrows it has quite the habit of some of the thinner *Coprini*, but the gills are arid, persistent, not becoming fluid.

In grassy places and hedges. Rare.

Name—*hiasco*, to split, gape. Opening in furrows. *Fr. Monogr.* i. *p.* 448. *Hym. Eur. p.* 314. *Berk. Out. p.* 176. *C. Hbk. n.* 448. *S. Mycol. Scot. n.* 418. *Bull. t.* 552. *f.* 2. *F. G.*

775. A. aratus Berk.—**Pileus** 2.5 cent. (1 in.) high, $\frac{4}{5}$ in. across, bright brown, membranaceous, campanulato-conic, rather acute, deeply sulcate; flesh of the disc of the same colour as the pileus. **Stem** 12.5 cent. (5 in.) long, fistulose, thickened at the base, smooth, white. **Gills** quite free, lanceolate, purplish black.

Allied to *A. hydrophorus* Bull., but clearly distinct.

Under hedges. Woodnewton.

Name—*aro*, to plough. Furrowed, sulcate. *Berk. Out. p.* 176. *C. Hbk. n.* 449. *Fr. Hym. Eur. p.* 314.

776. A. trepidus Fr.—**Pileus** 2.5 cent. (1 in.) and more broad, *date brown at the disc*, otherwise fuliginous, membranaceous, very fragile, campanulate, obtuse, smooth, *even at the disc*, otherwise slightly but densely striate. **Stem** 7.5 cent. (3 in.) long, almost 2 mm. (1 lin.) thick, fistulose, equal, *tense and straight* (rarely flexuous), quite smooth and naked, diaphanous, *hyaline*. **Gills** adnate, *crowded*, *ventricose*, very thin, *fuliginous-shining black*.

Spores dead black.

On moist ground. Hothorpe.

Spores pruniform, 12 mk. *Q.* Name—*trepidus*, trembling. From its very fragile nature. *Fr. Monogr.* i. *p.* 449. *Hym. Eur. p.* 314. *Icon. t.* 139. *f.* 2. *B. & Br. n.* 1956. *Pers. Myc. Eur.* 3. *t.* 29. *f.* 1.

*** Stem flexuous, pruinate at the apex.* Psathyrella.

777. A. caudatus Fr.—**Pileus** as much as 5 cent. (2 in.) broad when flattened, date brown, membranaceous, very tender, *conical then campanulate*, at length flattened, smooth, *the somewhat gibbous disc even*, otherwise pellucid-striate, not corrugated. **Stem** 7.5 cent. (3 in.) and more long, almost 4 mm. (2 lin.) thick, fistulose, attenuated *from the thickened and rooting base*, very fragile, curved, at length *tortuous*, undulated on the surface, white pruinate at the apex, becoming pale-white. Veil none. **Gills** adnate, 8 mm. (4 lin.) *broad*, distinct, cinereous-black, edge of the same colour.

In wet weather the pileus is split and somewhat deliquescent; when dry, however, it is firmer, tan obsoletely turning to flesh-colour. The spores are dead black on white paper, fuscous-dead black on black paper. The habit is almost that of *A. gracilis*. The largest of this group, but *very fragile*.

Among stumps of a wooden pavement. Sibbertoft, 1870. Sept.

Pileus at first sienna-brown, at length whitish, often transversely cracked. Stem fibrillose. Gills ventricose, *B. & Br.* Name—*cauda*, a tail. Furnished with a tail-like root. *Fr. Monogr.* i. *p.* 449. *Hym. Eur. p.* 314. *B. & Br. n.* 1261. *Paul. t.* 124. *f.* 1, 2.

778. A. pronus Fr.—**Pileus** 8–12 mm. (4–6 lin.) broad, fuliginous when moist, *hoary when dry*, hygrophanous, membranaceous, campanulate then *hemispherical*, very obtuse, smooth, *pellucid-striate*, obsoletely slightly silky-atomate *when dry*. **Stem** 4 cent. (1½ in.) long, very fistulose, *filiform*, *flexuous*, *lax*, *equal*, very smooth, pruinose at the apex under a lens, becoming pale. **Gills** adnate, plane, *somewhat triangular*, *distant*, 4 mm. (2 lin.) broad, livid-fuliginous, with black dots from the spores.

Spores very dead black.

In grassy places. Rare. Aug.–Oct.

Name—*pronus*, prostrate. From the lax stem. *Fr. Monogr.* i. *p.* 450. *Hym. Eur. p.* 315. *Icon. t.* 139. *f.* 3. *B. & Br. n.* 924. *C. Hbk. n.* 450. *S. Mycol. Scot. n.* 419.

779. A. empyreumaticus B. & Br.—**Pileus** 4 cent. (1½ in.) broad, rufous then becoming pale, hygrophanous, expanded, atomate; margin crenate. **Stem** 6 cent. (2½ in.) long, 3 mm. (1½ lin.) thick, narrowly but distinctly fistulose, silky-furfuraceous, pallid. **Gills** adnate, with a decurrent tooth, broad, 4 mm. (2 lin.) thick, distant, connected by veins, rufous then brown-purple, pallid at the edge.

Resembling *A. confragosus* so closely that, till the spores were observed, it was taken for that species.

Psathyrella. On wooden pavement. Sibbertoft, 1870. Oct.

Name—ἔμπυρος, scorched. Burnt-scented. *B. & Br. n.* 1262. *Fr. Hym. Eur. p.* 315.

780. A. atomatus Fr.—**Pileus** 1–2.5 cent. (½–1 in.) broad, livid, when dry becoming pale tan or pale flesh colour, sometimes reddish, hygrophanous, membranaceous, campanulate, obtuse, *slightly striate*, when dry without striæ, slightly wrinkled, *sprinkled with shining atoms.* **Stem** 5 cent. (2 in.) long, almost 2 mm. (1 lin.) thick, fistulose, equal, not rooted, *lax*, slightly bent (not tense and straight), *white and white-pulverulent at the apex.* **Gills** adnate, broad, *ventricose, slightly distant,* distinct, whitish, but cinereous-blackish with the black spores.

Solitary or gregarious. Pileus changing like *A. gracilis* from livid to whitish and rose-colour, but more fragile.

In woods, hedges, &c. Common. July–Sept.

Spores 14×9 mk. *W.G.S.* Name—*atomatus*, atomate. Sprinkled with shining atoms. *Fr. Monogr.* i. *p.* 450. *Hym. Eur. p.* 315. *Berk. Out. p.* 176. *C. Hbk. n.* 451. *S. Mycol. Scot. n.* 420. *Saund. & Sm. t.* 37. *f.* 3–6.

781. A. crenatus Lasch.—**Pileus** 18 mm.–2.5 cent. (¾–1 in.) broad, ochrey or rufescent then pale, hygrophanous, membranaceous, hemispherical, sulcate, atomate, *crenate at the margin.* **Stem** 4 cent. (1½ in.) long, somewhat curved, fragile, smooth, whitish, *striate and mealy above.* **Gills** adnate, somewhat ventricose, light yellowish-fuscous then blackish.

Fragile.

On the ground. Penzance.

Name—*crenatus*, scalloped. Crenate at the margin. *Lasch n.* 465. *Fr. Hym. Eur. p.* 315. *B. & Br. n.* 2013.

782. A. disseminatus Pers. — **Pileus** whitish, or yellowish then changing into cinereous, commonly livid, the disc becoming yellow, membranaceous, oval then campanulate, *at first scurfy*, then smooth, *sulcate.* **Stem** 2.5 cent. (1 in.) or a little more long, fragile, fistulose, often curved, lax, somewhat flexuous, *slightly scurfy then smooth*, white. **Gills** adnate ascending, *broad*, but scarcely ventricose, white-cinereous then blackish.

The stem often encircled at the base with the white mycelium expanded in a stellate manner. Densely crowded or *cæspitose.* Varying much in stature. The habit is that of *Coprinus*, very thin and soon wasting, but not becoming fluid.

About stumps and on the ground. Common. May–Nov.

Pileus about 6 mm. (3 lin.) broad. Often growing in multitudes. Spores

8×6 mk. *W.G.S.* Name—*dissemino*, to scatter. Widely spread. *Pers. Syn. p.* 403. *Fr. Monogr.* i. *p.* 451. *Hym. Eur. p.* 316. *Berk. Out. p.* 176. *C. Hbk. n.* 452. *S. Mycol. Scot. n.* 421. *Quel. t.* 8. *f.* 5.—A. major. *Sow. t.* 166. *Paul. t.* 123. *f.* 6.—B. minor, disc at length papillate. *Fl. Dan. t.* 1848. *Schæff. t.* 308 (quite young). *Batsch f.* 3. *Buxb. C.* ii. *t.* 50. *f.* 5. *Batt. t.* 27. *C.* Psathyrella.

GENUS II.—**Montagnites** (after Montagne). Fr. Epicr. p. 240. Montagnites.

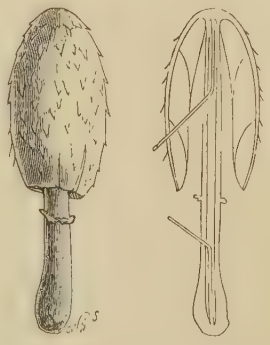
The universal veil forming a volva, persistent. Stem dilated at the apex into a plane round disc, even on both sides, *to the margin* of which *are adfixed the gills which are free, not joined by any membrane*, radiating, razor-shaped, persistent, obtuse at the edge. Trama cellulose. Spores oblong, even, black fuscous. *Fr. Hym. Eur. p.* 319.

No British species.

GENUS III.—**Coprinus** (*κόπρος*, dung). Pers. Fr. Epicr. p. 241. Coprinus.

Hymenophore separate from the stem. Gills membranaceous, at first closely pressed together and cohering, scissile, at length *melting away into a black fluid.* Trama obsolete. Spores oval, even, black.

A very distinct and sharply defined genus. Fugacious fungi, most of them furnished with a floccose or furfuraceous universal veil. Gills linear or ventricose, whence the original form of the pileus is cylindrical or ovate. *Fr. Hym. Eur. p.* 320.



XXXVII. Coprinus comatus.
One-fourth natural size.

The gills in this very natural genus are fully developed when the fungus first makes its appearance. The biological difference of the gills, as compared with those of Agaricus, is much more remarkable than the characters which distinguish most genera. The species are of rapid growth, often ephemeral. They

Coprinus.

grow on rich and highly manured places, often on dung, sometimes on decaying wood. Some are edible.

Trib. I. Pelliculosi (*pellicula*, a thin skin). Gills covered above with a fleshy or membranaceous cuticle, and hence the pileus does not open into furrows along the gills, but becomes torn and revolute.

* Comati (*coma*, hair : *C. comatus*). *Furnished with a ring arising from the volva, the cuticle torn into scales.*

** Atramentarii (*atramentum*, ink : *C. atramentarius*). *Somewhat ringed (but not with a volva), pileus dotted or spotted with minute innate squamules.*

*** Picacei (*pica*, a magpie, pied : *C. picaceus*). *Universal veil flocculose, at first continuous, then broken up into superficial scales which form patches on the pileus.*

**** Tomentosi (*tomentum*, down : *C. tomentosus*). *Pileus at first clothed with distinct flocci or lax villous down, which fall off and disappear. Ring none.*

***** Micacei (*mico*, to glitter : *C. micaceus*). *Pileus covered with small micaceous scales or granules, which fall off and disappear. Ring none.*

****** Glabrati (*glaber*, smooth). *Pileus smooth, without floccose or micaceous squamules. Veil none.*

Trib. II. Veliformes (*velum*, a veil ; *forma*, form). Pileus very thin, without a pellicle, at length opening into furrows along the back of the gills, and becoming plicato-sulcate. Stem thin, fistulose. Gills melting away into very thin lines.

* Cyclodei (κύκλος, a circle ; εἶδος, appearance). *Stem annulate or volvate.*

** Lanatuli (*lanatus*, woolly). *Pileus clothed with superficial, separating floccules, gills free. Ringless.*

*** Furfurelli (*furfureus*, branny). *Pileus micaceous or furfuraceous, gills commonly adnate to the apex of the stem which (in some species) is dilated into a ring or collar. Ringless.*

**** Hemerobii (ἡμέρα, a day ; βιός, life). *Pileus always smooth. Ringless.*

I.—Pelliculosi. Cuticle fleshy or membranaceous.

* Comati. *With a ring arising from the volva, &c.*

1. C. comatus Fr.—**Pileus** white, slightly fleshy, *at the first cylindrical*, 7.5 cent. (3 in.) high, and *continuous, soon* expanded, the cuticle separating into *adpressed shaggy scales*, the darker vertex remaining persistently entire, at length striate (but never sulcate) ; margin often unequal. **Stem** 20 cent. (8 in.) and more long, 12 mm. (½ in.) and more thick, hollow but with spider-web threads within, *radiato-bulbous* when young, then attenuated upwards, fibrillose, shining, dingy or lilac-white. Ring comparatively thin, torn, *moveable*, at length vanishing. **Gills** free, separate from the stem, 6 mm. (3 lin.) broad, linear, *white then becoming purple*, and at length black and deliquescent.

Spores globose. Ring sometimes persistent at the base in the form of a volva : *Bolt. t.* 54. In drier weather it becomes whiter as do also the gills : *Paul. t.* 128.

On rich soil near roads, houses, &c. Frequent. April–Oct.

A very handsome plant, and easily identified by its fine cylindrical form, its soft clothy scales and snowy whiteness. Generally growing in considerable quantity. Edible; tender and delicious. It should be gathered when the gills are white or just becoming tinged with pink, and not used when they become black. It makes excellent ketchup. Spores ellipsoid or sphæroid-ellipsoid, 11–13×6–8 mk. *K.*; 15×8 mk. *W.G.S.* Name—*coma*, hair. Shaggy, maned. *Fr. Monogr.* i. *p.* 452. *Hym. Eur. p.* 320. *Sverig. ätl. Sv. t.* 87. *Berk. Out. p.* 177. *C. Hbk. n.* 453. *S. Mycol. Scot. n.* 422. A. comatus *Fl. Dan. t.* 834. *Harz. t.* 21. *Grev. t.* 119. *Badh.* i. *t.* 10. *f.* 2, ii. *t.* 7. *f.* 1-3. *Krombh. t.* 30. *f.* 15-21. *Klotsch. Bor. t.* 389. A. porcellanus *Schæff. t.* 46, 47. A. typhoides *Bull. t.* 582. *f.* 2. A. fimetarius *Bolt. t.* 44. *Curt. Lond. t.* 93. A. cylindricus *Sow. t.* 189. *Batt. t.* 26. *f. B.* Coprinus.

2. C. ovatus Fr.—**Pileus** white, somewhat membranaceous, *at the first ovate* and *densely imbricated with thick spreading concentric scales*, covered with an even hood at the apex, then expanded, striate. **Stem** 7.5–10 cent. (3–4 in.) long, solid at the base, rooting, otherwise hollow, with spider-web threads within, attenuated upwards, flocculose, shining white. Ring not very conspicuous and soon vanishing. **Gills** free, then remote, slightly ventricose, at the first somewhat naked and remaining long shining white, *at length umber-blackish*, never becoming purple.

Smaller, thinner, less handsome than *C. comatus*. For the most part solitary.

On rich ground. Woodnewton.

Name—*ovum*, an egg. Egg-shaped. *Fr. Monogr.* i. *p.* 453. *Hym. Eur. p.* 320. *B. & Br. n.* 925. *C. Hbk. n.* 454. Agaricus *Schæff. t.* 7.

3. C. sterquilinus Fr.—**Pileus** 7.5 cent. (3 in.) high, somewhat membranaceous, ovato-conical, then campanulate, scarcely expanded, obtuse, fragile, *deeply sulcate*, the furrows forked, but at the same time *silky-villous* and *squarrose on the disc with diverging imbricated scales*, at length split at the margin. **Stem** 12.5 cent. (5 in.) long, 6 mm. (3 lin.) thick at the apex, hollow, but solid at the base, not rooted, *zoned at the base with an oblique free volvaceous ring*, attenuated upwards, fragile, fibrillose, white, not zoned internally. **Gills** free, slightly ventricose, 6 mm. (3 lin.) broad, *purplish-umber*.

Widely removed from *C. comatus*, &c. The pileus is not as in these covered with a continuous hood at the apex. Stem becoming somewhat black when touched.

On cow-dung. Rare. Aug.

Name—*sterquilinium*, a dunghill. *Fr. Monogr.* i. *p.* 454. *Hym. Eur. p.* 321. *Berk. Out. p.* 177. *C. Hbk. n.* 455. *S. Mycol. Scot. n.* 423. *Quel. t.* 9. *f.* 2. Agaricus *Michel. t.* 80. *f.* 3.

Coprinus. ** Atramentarii. *Somewhat ringed (but not with a volva), &c.*

4. C. atramentarius Fr.—**Pileus** *lurid-fuliginous,* but becoming hoary with adpressed silky lustre, slightly fleshy, *ovate,* obtuse, wholly longitudinally and *deeply sulcate* and ribbed, soft to the touch, repand-unequal at the margin, *squamulose on the disc, slightly adpressedly-silky at the sides.* **Stem** *at first ventricose,* fusiform, attenuated shortly downwards, for a greater distance upwards, with angular furrows, a little longer than the pileus; then elongato-attenuated upwards, 20 cent. (8 in.) long, 12 mm. (½ in.) and more thick, firm, longitudinally fibrillose, even at the apex, zoned within. **Gills** quite free, very *ventricose,* 12 mm. (½ in.) and more broad, at first cohering, *whitish* and flocculose at the edge, *then becoming brown-black.*

Pileus when full grown become so even as at first sight to appear smooth, white-cinereous, with fuscous scales; it deliquesces as it expands, and does not become revolute. Flesh scissile, fuliginous. Size various, sometimes as large as the fist, but often less. The stem where the edge of the adpressed pileus touches it is thicker, in the form of an angular, incompletely *ringed knot;* the knot however vanishes and the stem becomes equal, nay bulbous. The gills when deliquescing stain abominably black. Commonly in very large clusters; very changeable according to age and situation. In fine weather it becomes whiter, as do also the gills: *Paul. t.* 129.

On rich soil by waysides, &c. Common. May–Nov.

Very easily identified from the peculiar form of the stem. Spores ellipsoid or sphæroid-ellipsoid, 9-10×6 mk. *K.;* 9×5 mk. *W.G.S.* Edible. Name—*atramentum,* ink. From its dissolving into an inky fluid. *Fr. Monogr.* i. *p.* 455. *Hym. Eur. p.* 322. *Berk. Out. p.* 177. *t.* 12. *f.* 1. *C. Hbk. n.* 456. *S. Mycol. Scot. n.* 424. Agaricus *Bull. t.* 164. *Sow. t.* 188. *Fl. Dan. t.* 1370. *Badh.* i. *t.* 10. *f.* 1, ii. *t.* 9. *f.* 1, 2. *Klotsch. Fl. Bor. t.* 390. *Vaill. Par. t.* 12. *f.* 10, 11. Compare *Schæff. t.* 67, 68.

5. C. fuscescens Fr.—**Pileus** 5 cent. (2 in.) rarely 7.5 cent. (3 in.) broad, whitish, becoming fuscous at the disc, slightly fleshy at the middle, globose and ovate then expanded, and at length revolute when deliquescent, *not sulcate,* obtuse, unpolished, *squamulose on the disc.* **Stems** fistulose to the base, *equal* (not ventricose when young), at first very short, soon elongated, 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) thick, in its earliest stage only *obsoletely ringed towards the base,* when full grown even and smooth. **Gills** free, very broad, semi-ovate, at the first *white then umber.*

Cæspitose, fragile. Stem slightly silky under a lens, though even and smooth to the naked eye. Gills at the first adhering to the stem, not at the first so densely sprinkled-white as those of *C. atramentarius;* in deliquescing they become linear. It is smaller, thinner, at the first more equal than *C. atramentarius;* pileus at first covered, not with micaceous atoms, but with a somewhat mealy pruina.

On stumps. Uncommon. Aug.

Spores 10×5 mk. *W.G.S.* Name—*fuscus*, dark or swarthy. Becoming fuscous. *Fr. Monogr.* i. *p.* 456. *Hym. Eur. p.* 322. *Berk. Out. p.* 178. *C. Hbk. n.* 457. *S. Mycol. Scot. n.* 425. *Klotsch. t.* 375. Agaricus *Schæff. t.* 17.

*** Picacei. *Universal veil floccose, &c.*

6. C. picaceus Fr.—**Pileus** 5–7.5 cent. (2–3 in.) broad, thin, somewhat membranaceous, *ovate then campanulate* and expanded, at length revolute, fuliginous-black, *variegated with broad unequal superficial separating white scales from the breaking up of the universal* woven *veil*. **Stem** about 12.5 cent. (5 in.) long, 6–8 mm. (3–4 lin.) thick, *hollow all the way into the rootless bulb*, fragile, attenuated upwards, *ringless* and rather smooth, shining white. **Gills** free, ventricose, cinereous-dead black, then *becoming shining black* and melting into fluid.

Soon deliquescing. There is a smaller variety growing on rotten wood; also a sterile form, white, the gills with unchanged colour melting into milk-white fluid.

In grassy places, roadsides, &c. Rare. Sept.–Dec.

Smell often extremely disagreeable, *M. J.B.* Considered poisonous. Spores 14×9 mk. *W.G.S.* Name—*pica*, a magpie. Pied, black and white. *Fr. Monogr.* i. *p.* 457. *Hym. Eur. p.* 323. *Berk. Out. p.* 178. *C. Hbk. n.* 458. Agaricus *Bull. t.* 206. *Fl. Dan. t.* 1499. *Sow. t.* 170.

7. C. aphthosus Fr.—**Pileus** 2.5 cent. (1 in.) high, *livid*, somewhat membranaceous, *ovate then campanulate*, expanded, not striate, melting slowly. **Stems** 5 cent. (2 in.) long, 4 mm. (2 lin.) thick, *fistulose*, *soft*, somewhat fragile, equal, but commonly *twisted*, fibrillose, white. **Gills** adnate, *linear*, white then blackish.

Smaller, thinner, with fewer individuals in the cluster than in the case of neighbouring species. Partial *veil* none; *universal veil* continuous only in its earliest stage, soon *passing into superficial floccose white* but easily separating *scales*.

In hollow trees, cellars, &c. Rare.

Name—like an *aphthous* tongue (ἄφθαι, the thrush). From the appearance of the scales. *Fr. Monogr.* i. *p.* 458. *Hym. Eur. p.* 323. *Berk. Out. p.* 178. *C. Hbk. n.* 459. A. domesticus *Bolt. t.* 26 var. pileus repand, becoming olive.

8. C. flocculosus Fr.—**Pileus** dingy *white*, membranaceous, *ovate* then expanded, striate, split, covered over with floccose scales. **Stem** hollow, attenuated upwards, even, white, swollen at the base. **Gills** free, *violaceous* then fuscous-black.

Single, of low stature; habit of *C. picaceus*.

Coprinus.

In pastures and garden-ground. Rare. Aug.–Sept.

Pileus 6 cent. (2½ in.) across, splitting in the direction of the gills. Stem 7.5 cent. (3 in.) high, finely silky under a lens. Generally solitary. *B. & Br.* Name—*floccus*, a flock of wool. Slightly floccose. *Fr. Hym. Eur. p.* 323. *B. & Br. n.* 926. *C. Hbk. n.* 461. *S. Mycol. Scot. n.* 426. Agaricus *Batt. t.* 25. *A.*

9. C. similis B. & Br.—**Pileus** pallid, the centre darker, hygrophanous, ovato-campanulate, lineato-striate, clothed with acute separating warts which are fuscous at the apex. **Stem** hollow, white, broader at the base. **Gills** adnate, attenuated behind, somewhat linear, brownish near the margin.

Resembling *C. aphthosus*, but differing in the striate pileus, &c.

On trunks of dead trees. Bodelwyddan. Sept.

Name—*similis*, like. From its resemblance to *C. aphthosus*. *B. & Br. n.* 1011. *C. Hbk. n.* 460. *Fr. Hym. Eur. p.* 323.

**** Tomentosi. *Pileus at first clothed with distinct flocci, &c.*

10. C. exstinctorius Fr.—**Pileus** as much as 7.5 cent. (3 in.) broad, *pale*, the darker disc somewhat livid, somewhat membranaceous, *clavate then campanulate*, striate at the margin; *then rimosely split*, expanded, scarcely revolute. **Stem** 10–12.5 cent. (4–5 in.) long, 6 mm. (3 lin.) thick, hollow, attenuated from the rooted base, *becoming smooth*, white, without a partial veil. **Gills** reaching the stem, narrow, *lanceolate*, white then *fuscous-blackish.*

The *covering of the pileus*, arising from the universal veil, is *floccoso-scaly*, easily separating, not so dense as in *C. fimetarius*, &c., becoming bald from the margin to the vertex, whereas in *C. fimetarius* it becomes bald from the vertex towards the margin. For the most part solitary. Firmer than neighbouring species.

On the ground. Rare. Sept.

Name—*exstinctor*, an extinguisher. From its shape. *Fr. Monogr.* i. *p.* 459. *Hym. Eur. p.* 324. *Berk. Out. p.* 178. *C. Hbk. n.* 462. *S. Mycol. Scot. n.* 427. Agaricus *Bull. t.* 437. *f.* 1. *Paul. t.* 124. *f.* 7. *Bolt. t.* 24?

11. C. fimetarius Fr.—**Pileus** membranaceous, thin, *at first cylindrical*, soon conical, *at length revolute* and torn at the margin, *when young everywhere covered with floccoso-squarrose white scales* (from the universal veil) which separate from the vertex towards the circumference, at length naked, longitudinally cracked, but not opening into furrows, the vertex, which remains entire, livid. **Stem** about 7.5 cent. (3 in.) long, 4–6 mm. (2–3 lin.) and more thick, hollow, fragile, *thickened and solid at the base*, attenuated

upwards, shining white and *villous with squamules* of the same colour. **Gills** free, reaching the stem, at first *ventricose, then linear, flexuous, black.* Coprinus.

Stem when young curt and firmer. Var. B. *macrorhiza:* pileus plumoso-scaly; stem shorter, somewhat marginato-bulbous, rooted, villous (and often beaded with watery drops). Rather a singular young form than a true variety. *Mich. t.* 80. *f.* 2. Var. C. *pullata:* pileus adpressedly scaly and tomentose, soon denuded, fuscous-blackish; stem equal, becoming smooth. An old state. *Bolt. t.* 20. *Sow. t.* 262.

On dung. Common. April, &c.

Sometimes there is a root as long as the stem, *M. J. B.* Spores sphæroid-ellipsoid, 15–18 × 9–12 mk. *K.*; 15 × 9 mk. *W. G. S.* Name—*fimetum*, a dung-hill. *Fr. Monogr.* i. *p.* 459. *Hym. Eur. p.* 324. *Berk. Out. p.* 179. *C. Hbk. n.* 463. *S. Mycol. Scot. n.* 428. *Hoffm. Ic. t.* 9. *f.* 2. A. cinereus *Bull. t.* 88.

12. C. tomentosus Fr.—**Pileus** 4 cent. (1½ in.) high, grey white, somewhat membranaceous, *cylindrical then conical* or narrowly pyramidal, not expanded, striate and at length longitudinally cracked, covered over with thin flocculose somewhat persistent down. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose, somewhat equal, at first *equally covered over with thin white villous down*, thickened at the base when young. **Gills** *free, linear*, fuscous-blackish, at first white-micaceous at the edge.

The stem is comparatively shortened. Very much allied to *C. fimetarius*, but smaller, scarcely cæspitose, and very easily distinguished at first sight by its peculiar habit.

On dung and rich pastures. Frequent. Sept.

The coating sometimes peels off in broad patches, *M. J. B.* Name—*tomentum*, flock. Downy. *Fr. Monogr.* i. *p.* 460. *Hym. Eur. p.* 325. *Berk. Out. p.* 179. *C. Hbk. n.* 464. *S. Mycol. Scot. n.* 429. Agaricus *Bull. t.* 138. *Bolt. t.* 156. *Mich. t.* 80. *f.* 5.

13. C. niveus Fr.—**Pileus** 2.5–5 cent. (1–2 in.) broad, snow-white, somewhat membranaceous, at first *ovate, soon campanulato-expanded*, not split before it becomes revolute and torn, *mealy-floccose*, often squamulose. **Stem** at first short, then elongated to 2.5–7.5 cent. (1–3 in.), 4–6 mm. (2–3 lin.) thick, fistulose, very fragile, attenuated upwards, *covered over with snow-white down.* **Gills** reaching the stem, *adnexed*, narrow, at first cohering, at length, when the pileus is split, here and there distant, blackish.

It varies extremely in size, but in general is smaller than *C. fimetarius*, and often so delicate that it may easily be confounded with the floccose species of section Veliformes. It is distinguished from *C. tomentosus*, &c., chiefly by the snow-white *down* being *somewhat persistent*, and by the gills not being free.

On horse and deer dung. Common. June–Nov.

Coprinus.

It is often considerably smaller than indicated by Fries. Spores 10×12 mk. *W.G.S.* Name—*nix*, snow. Snow-white. *Fr. Monogr.* i. *p.* 460. *Hym. Eur. p.* 325. *Berk. Out. p.* 179. *C. Hbk. n.* 465. *S. Mycol. Scot. n.* 430. Agaricus *Fl. Dan. t.* 1671. *Paul. t.* 125. *f.* 2. B. minor. *Sow. t.* 262.

***** Micacei. *Pileus with micaceous squamules, &c.*

14. C. micaceus Fr. A. major.—**Pileus** at first yellow-ferruginous, the even disc darker, at length date-brown-fuscous, somewhat membranaceous, undulato-lobed, rimosely split, striate, but not opening into furrows, at first covered with micaceous scales, smooth when these separate. **Stems** 7.5 cent. (3 in.) to as much as 20 cent. (8 in.) long, hollow and soft, even, at first obsoletely white-silky then fibroso-fibrillose, whitish. **Gills** adnexed, lanceolate, linear in deliquescing, isabelline, becoming brown at the edge.

XXXVIII. Coprinus micaceus. One-third natural size.

B. minor.—**Pileus** yellowish-livid when moist, ferruginous-ochraceous when dry, date-brown at the disc, somewhat membranaceous, but scissile, oval then campanulate, *forked-sulcate, the furrows micaceous*, soon split at the margin, but even at the disc. **Stem** equal, 4 mm. (2 lin.) thick, even, sometimes curved, becoming smooth, white. **Gills** *white then livid*, at first at the edge then wholly fuscous-blackish.

Very changeable, for the most part cæspitose. The stems are often angular, from mutual pressure, and sometimes when young have the thickened knot at the middle, as in *C. atramentarius*. In abnormal forms the pileus is unequal, ribbed-sulcate, transversely rimoso-squarrose.

On stumps, the ground, &c. Common. April–Nov.

Spores 7×8 mk. *W.G.S.*; 10×5 mk. *W.P.* Name—*mica*, grain, granule. From the shining particles. *Fr. Monogr.* i. *p.* 461. *Hym. Eur. p.* 325. *Berk. Out. p.* 179. *C. Hbk. n.* 466. *S. Mycol. Scot. n.* 431. Agaricus *Bull. t.* 246. *Fl. Dan. t.* 1143. *Klotsch. Fl. Bor. t.* 376. *Fl. Bat. t.* 820. *f.* 3. *Corda Sturm.* xi. *t.* 49. In rainy weather somewhat deliquescent, pileus soon naked, at length date-brown-fuscous. *Bull t.* 365. *Schæff. t.* 66. *f.* 4-6. In dry weather withering, pileus becoming pale, micaceous-squamulose, persistent. *Bull. t.* 246. *Corda Sturm.* xi. 19. *t.* 2.—Var. *lætior*. A. congregatus *Sow. t.* 261. *Grev. t.* 76. *Paul. t.* 26. *f.* 3.

15. C. aratus B. & Br.—**Pileus** 7.5 cent. (3 in.) broad, umber, campanulate, deeply sulcate up to the darker disc, which is sometimes wrinkled, sometimes even, sprinkled with large micaceous particles, revolute in decay. **Stem** 12.5 cent. (5 in.) long, 5 mm.

(2½ lin.) thick, fistulose, attenuated upwards, slightly bulbous at the base, straight, smooth, or rather minutely silky, snow-white, umber within. **Gills** separating, narrow, attenuated at either end, deep rich brown then black. Coprinus.

Solitary, tall. A magnificent species, allied to *C. micaceus*. Grooved like *Agaricus hiascens*. The gills are at first attached, but so slightly that they easily part from the stem, so as to appear free; but they are still connected at the base, as if there were a slight collar.

In a hollow tree. King's Cliffe, 1860, &c. May.

Name—*aro*, to plough. Sulcate. *B. & Br. n.* 927. 1956*. *C. Hbk. n.* 467. *Fr. Hym. Eur. p.* 326.

16. C. radians Fr.—**Pileus** yellow-tawny, becoming pale, membranaceous, ovate then campanulate, micaceous, *granuloso-scaly at the disc*, striate at the margin. **Stem** fistulose, equal, naked, *fibrilloso-rooting at the base*. **Gills** reaching the stem, somewhat linear, white then violaceous-black.

Small, somewhat cæspitose. Lycoperdon radiatum *Sow. t.* 145 represents its early stage.

On plaster walls. Uncommon. July.

Pileus about 5 cent. (2 in.) broad. Stem 4–5 cent. (1½–2 in.) long. Spores 7×8 mk. *W.G.S.* Name—*radians*, radiating. From the habit of the base. *Fr. Hym. Eur. p.* 326. *Berk. Out. p.* 179. *C. Hbk. n.* 468. *S. Mycol. Scot. Supp. Scot. Nat.* 1881, *p.* 35. *n.* 2161. Agaricus *Desmaz in Ann. Sc. Nat.* 13. *t.* 10. *f.* 1.

17. C. papillatus Fr.—**Pileus** 4–6 mm. (2–3 lin.) broad, fuscous, disc darker, membranaceous, ovate then campanulate, at length flattened and revolute, torn, striate, scurfy and *beset with minute warts which are more crowded on the disc*. **Stem** 2.5 cent. (1 in.) long, 2 mm. (1 lin.) thick, fistulose, equal, *smooth* except at the base, *hyaline-pellucid*, commonly pruinose at the apex with the spores. **Gills** few, free, but *reaching* the stem, blackish.

The smallest of the group, growing in troops, and less fugacious than the others. It approaches very near to the Veliformes, but is allied to *C. micaceus*, &c., in the covering of the pileus. Var. *oxygena:* pileus whitish, inclining to grey and as well as the stem sparingly flocculose.

On dung and on the ground. Shrewsbury.

Name—*papilla*, a teat. From the minute points on the pileus. *Fr. Monogr.* i. *p.* 462. *Hym. Eur. p.* 326. *B. & Br. n.* 1958. Agaricus *Batsch f.* 78.

****** Glabrati. *Pileus smooth, &c.*

18. C. alternatus Fr.—**Pileus** 4 cent. (1½ in.) broad, *chalky-pallid, pale umber at the disc*, somewhat fleshy, hemispherical,

Coprinus.

even, very smooth, discoid. **Stem** 7.5–10 cent. (3–4 in.) long, hollow, attenuated from the thickened base where it is 8 mm. (4 lin.) thick, *smooth*, becoming pale. **Gills** adnate, linear, cinereous then black.

Somewhat cæspitose.

On the ground. East Dereham.

Striped with alternate striæ broad and narrow, *M. J. B.* Name—*alternatus*, alternate. From the striæ. *Fr. Hym. Eur. p.* 327. *B. & Br. n.* 1957. Agaricus *Fl. Dan. t.* 1961. *f.* 1.

19. C. deliquescens Fr.—**Pileus** 7.5–10 cent. (3–4 in.) broad, livid-fuliginous, membranaceous, ovato-campanulate then expanded, smooth, but *papillate with minute points on the disc*, never floccose or split, but revolute and striate, the striæ broad, but not deep. **Stem** 10 cent. (4 in.) long, 4–8 mm. (2–4 lin.) thick, hollow, *corticate*, equally attenuated upwards, *smooth, shining white*. **Gills** free, *at length remote from the stem*, very crowded, flexuous, very narrow, only 1 m. (½ lin.) broad, lurid-blackish.

Slightly firm.

On stumps and among fallen leaves. Frequent. Aug.

Sometimes confounded with *C. atramentarius*, *M. J. B.* Name—*deliquesco*, to dissolve. Deliquescing. *Fr. Monogr.* i. *p.* 463. *Hym. Eur. p.* 327. *Berk. Out. p.* 180. *C. Hbk. n.* 469. *S. Mycol. Scot. n.* 432. Agaricus *Bull. t.* 558. *f.* 1. *Klotsch. Fl. Bor. t.* 376.

II.—Veliformes. Pileus very thin, without a pellicle, &c.

* Cyclodei. *Stem annulate or volvate.*

20. C. Hendersonii Berk.—**Pileus** 8–12 mm. (4–6 lin.) broad, apex brownish shaded into cinereous towards the margin, at first cylindrical then ovali-campanulate, at length plane, smooth, striate half-way up. **Stem** 4 cent. (1½ in.) long, not 2 mm. (1 lin.) thick, filiform, hollow, attenuated upwards, at length smooth, with a small erect entire ring. **Gills** free, rather distant, narrow, black.

Pileus minutely granulated under a lens, margin folded. Gills powdered with the black spores, the extreme margin white. Looks like a small annulate *A. disseminatus*. Extremely tender.

On hotbeds and horse-dung. Rare. Feb.–Sept.

Spores sphærical, apiculate, 8–9 mk. *Q.* Name—after J. Henderson. *Berk. Out. p.* 180. *t.* 24. *f.* 8. *C. Hbk. n.* 470. *S. Mycol. Scot. n.* 433. *Fr. Hym. Eur. p.* 329. Agaricus *Berk. Eng. Fl.* v. *p.* 122. *Pers. Myc. Eur.* 3. *p.* 26. *f.* 1.

** Lanatuli. *Pileus with superficial separating floccules, &c.* Coprinus.

21. C. lagopus Fr.—**Pileus** 2.5 cent. (1 in.) broad, whitish, disc livid, very tender, cylindrical then campanulate, when young *beautifully floccose* then naked, flattened and split, radiato-sulcate. **Stem** 12.5 cent. (5 in.) and more long, 2 mm. (1 lin.) thick, very weak, very fragile, slightly attenuated at both ends, *everywhere white-woolly*. **Gills** *at length remote*, linear, black.

A) *nemorum* (described above), in moist shady places in woods. B) *viarum*, in open places among rubbish, approaching *C. niveus*, differing in the stem being 5–7.5 cent. (2–3 in.) long, equally attenuated from the base, in the pileus when expanded being 2.5–5 cent. (1–2 in.) broad, at first everywhere white-floccose, opening into furrows, occasionally squamulose, livid. Gills free but scarcely remote. Both forms *inodorous*.

On rich soil and dung. Rare. Aug.

Gills very close, mostly in one series, with a marginal one occasionally inserted forming a second series, sometimes in three series, the intermediate ones very irregular in length, *W.G.S.* Name—λαγώς, a hare; πούς, a foot. Hare's-foot. From the woolly stem. *Fr. Monogr.* i. *p.* 465. *Hym. Eur. p.* 329. *Berk. Out. p.* 180. *C. Hbk. n.* 472. *S. Mycol. Scot. n.* 434. *Saund. & Sm. t.* 19.

22. C. narcoticus Fr.—**Pileus** as much as 2.5 cent. (1 in.) broad, white, conico-cylindrical, *villous with recurved floccose scales*, then flattened, denuded, striate, hyaline. **Stem** almost 5 cent. (2 in.) long, 2 mm. (1 lin.) thick, fistulose, equal, *at first villous*, at length becoming smooth. **Gills** free, *reaching the stem*, white then blackish.

Very tender. Of all the Hymenomycetes it has *the strongest smell, narcotic-alkaline*.

On manure-heaps. Shrewsbury. Oct.

Smell like that of Hygrophorus fœtens, *Phil.* Spores .11 × 5 mk. *W.P.* Name—from its odour. *Fr. Monogr.* i. *p.* 465. *Hym. Eur. p.* 329. *Grevillea, vol.* viii. *p.* 97. Agaricus *Batsch f.* 77. *Pers. Myc. Eur.* 3. *t.* 26. *f.* 5.

23. C. macrocephalus Berk.—**Pileus** rather more than 12 mm. (½ in.) broad, apex brown shaded off into slate-colour on the margin, at first cylindrical, then cylindrico-campanulate, sprinkled with pointed scales. **Stem** 2.5–5 cent. (1–2 in.) long, 4 mm. (2 lin.) thick, fistulose, attenuated upwards, dirty white, clothed with short cottony down, and with longer, sometimes deflexed, loose fibres, strigose at the base. **Gills** linear, perfectly free, at length black.

Scales adpressed or patent. Spores elliptic.

On putrid dung. Rare. March, Sept.

Coprinus. Name—*μακρός*, long; *κεφαλή*, head. Long-headed. *Berk. Out. p.* 180. *C. Hbk. n.* 471. *S. Mycol. Scot. n.* 435. *Fr. Hym. Eur. p.* 329. Agaricus *Berk. Eng. Fl.* v. *p.* 122.

24. C. nycthemerus Fr.—**Pileus** 8 mm. (4 lin.) broad, grey, disc fuscous, at first cylindrico-conical, soon opening into furrows and flattened, 12 mm. (½ in.) and more high, *when young furfuraceo-flocculose*, at length naked and forked-striate. **Stem** 4 cent. (1½ in.) long, scarcely 2 mm. (1 lin.) thick, fistulose, flaccid, equal, *smooth*, becoming pale-white. **Gills** free, at first crowded, *at length remote*, distant, narrow, linear, blackish.

Very tender. Very much allied to *C. ephemerus*.

On dung. Rare.

Name—*νυχθήμερον*, a day and a night. From its duration. *Fr. Monogr.* i. *p.* 465. *Hym. Eur. p.* 330. *Berk. Out. p.* 181. *C. Hbk. n.* 473. *Bull. t.* 542. *f. D.* (under A. ephemerus).

25. C. radiatus Fr.—**Pileus** 2–6 mm. (1–3 lin.) broad, dingy *yellowish*, *the darker disc rufescent*, very thin, clavate then campanulate, soon opening into furrows, flattened, *radiato-plicate*, *at first covered with cinereous down*, soon naked. **Stem** scarcely reaching 2.5 cent. (1 in.), *filiform*, hyaline, *becoming smooth*, when young often pruinate. **Gills** *free*, *few*, very distant when the pileus is split, pallid-blackish.

The *most tender* of all, fugacious, withering up with a breath; growing in troops.

On horse-dung. Common. May–Nov.

Often overlooked because withered up after sunrise. Spores ellipsoid-sphæroid, 8–10×6–8 mk. *K.*; 6–8 mk. *W.G.S.* Name—*radio*, to shed beams. From the radiating folds on the pileus. *Fr. Monogr.* i. *p.* 466. *Hym. Eur. p.* 330. *Berk. Out. p.* 181. *C. Hbk. n.* 474. *S. Mycol. Scot. n.* 436. Agaricus *Bolt. t.* 39. *f. C. Bull. t.* 542. *L.* and *E—H.*

26. C. Spraguei Berk.—**Pileus** campanulate then conical, tomentose, plicate. **Stem** fistulose, pale cinnamon. **Gills** few, narrow.

Very delicate. The difference between it and *C. plicatilis* as regards the spores is very striking.

In gardens. King's Cliffe. July.

Spores narrow, subcymbiform, $\frac{1}{2500}$ in. long, *M.J.B.* Name after Charles J. Sprague. *Berk. Out. p.* 182. *C. Hbk. n.* 478. *Fr. Hym. Eur. p.* 330.

*** Furfurelli. *Pileus micaceous or furfuraceous, &c.*

27. C. domesticus Fr.—**Pileus** 5 cent. (2 in.) broad, *fuliginous*, disc date-brown, thin, ovate then campanulate, *furfuraceo-squam-*

ulose, then opening into furrows and flattened, *undulato-sulcate*, disc obtuse, even. **Stem** 5–7.5 cent. (2–3 in.) long, 4–6 mm. (2–3 lin.) thick, fistulose, slightly firm, attenuated upwards, *adpressedly silky*, becoming even, white. **Gills** *adnexed*, at first crowded, distant when the pileus is split, linear, *white then reddish*, at length fuscous-blackish.

A *larger* and more remarkable species than all the neighbouring ones.

On damp carpets, in cellars, &c. Frequent.

Name—*domus*, a house. Found in houses. *Fr. Monogr.* i. *p.* 466. *Hym. Eur. p.* 330. *Berk. Out. p.* 181. *C. Hbk. n.* 475.

28. C. ephemerus Fr.—**Pileus** ovali-clavate, then soon campanulate, and on opening into furrows flattened, wholly in the form of a veil and *radiato-sulcate*, *at the first slightly scurfy*, then naked; *the elevated even disc rufescent*. **Stem** 2.5–5 cent. (1–2 in.) long, fistulose, equal, *smooth*, *pellucid*, whitish. **Gills** *reaching the stem*, remote *without a collar*, linear, at first whitish, then becoming fuscous, at length black.

Very *tender*, fugacious. When examined under a lens the pileus is delicately scurfy.

On dung. Common. May–Oct.

Pileus 6–18 mm. (¼–¾ in.) broad. Name—ἐφήμερος, lasting for a day. *Fr. Monogr.* i. *p.* 467. *Hym. Eur. p.* 331. *Berk. Out. p.* 181. *C. Hbk. n.* 476. *S. Mycol. Scot. n.* 437. Agaricus *Fl. Dan. t.* 832. *f.* 2. *Bull. t.* 128.

29. C. sociatus Fr.—**Pileus** 4 cent. (1½ in.) broad, *fuscous then becoming pale*, disc date-brown, ovali-cylindrical then expanded, *densely split into furrows*, the raised ribs slightly scurfy, the even disc *umbilicate in the centre*. **Stem** 5 cent. (2 in.) or a little more long, fistulose, delicately *attenuated* from the base to the apex, *smooth*, *white*, not pellucid. **Gills** *adnexed in the form of a ring*, not remote, little ventricose, attenuated behind, cinereous-black.

Pileus very tender. Gills slowly deliquescing. There is a variety in which the gills reach the stem without a manifest collar.

On damp soil. Cabalva, 1879. Oct.

Name—*socio*, to associate. Growing in groups. *Fr. Monogr.* i. *p.* 468. *Hym. Eur. p.* 331. *Grevillea*, *vol.* viii. *p.* 76.

30. C. plicatilis Fr.—**Pileus** 2.5 cent. (1 in.) broad, fuscous then bluish-grey-cinereous, *disc darker*, fuscous or rufescent, ovali-cylindrical then campanulate, soon expanded, opening into furrows, *sulcato-plicate*, for the most part *smooth*, *disc broad*, even, *at length depressed*. **Stem** 2.5–7.5 cent. (1–3 in.) long, fistulose, thin,

Coprinus. equal, even, *smooth*, pallid, *somewhat pellucid.* **Gills** *remote from the stem* and adnate to a *collar* which is formed from the dilated apex of the stem, distant, grey-blackish.

Very tender and fragile, but when scorched by the sun not melting into fluid. Very variable in stature and size.

Pastures, roadsides, &c. Common. April–Oct.

Spores broadly elliptic, $\frac{1}{500}$ in. long, *M. J. B.* Name—*plico*, to fold. From the folds on the pileus. *Fr. Monogr.* i. *p.* 468. *Hym. Eur. p.* 331. *Berk. Out. p.* 181. *C. Hbk. n.* 477. *S. Mycol. Scot. n.* 438. Agaricus *Curt. Lond. t.* 200. *Sow. t.* 364. *Fl. Dan. t.* 1134. A. striatus *Bull. t.* 552 *partly.*

31. C. cothurnatus Godey.—**Pileus** dirty-white, reddish-white, or flesh-colour, disc of the same colour, very thin, conico-campanulate, slightly expanded, densely furfuraceous, at length repand, umbonate and irregularly fissured. **Stem** 3–4 cent. (1¼–1½ in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, slender, attenuated upwards, squamulose, white, sheathed at the base with white fibrillose squamules. **Gills** free, somewhat lanceolate, numerous, white then flesh-colour.

The pileus does not split along the back of the gills owing to the thick furfuraceous coat.

On cow-dung. Penzance.

Name—*cothurnus*, a buskin. From the covering of the lower half of the stem. *Godey in Gillet Champ. de France, p.* 605. *B. & Br. n.* 2015.

32. C. filiformis B. & Br.—**Pileus** not 2 mm. (1 lin.) high, grey, shining with white mealy particles, cylindrical, striate. **Stem** 12 mm. (½ in.) long, extremely fine, white, sprinkled with a few short delicate hairs.

This minute species is not larger than *Mucor caninus.*

On the ground in wood. Colleyweston, 1860. Sept.

Name—*filum*, a thread; *forma*, form. From the hair-like stem. *B. & Br. n.* 928. *t.* 15. *f.* 8. *C. Hbk. n.* 480. *Fr. Hym. Eur. p.* 332.

**** Hemerobii. *Pileus always smooth, &c.*

33. C. hemerobius Fr.—**Pileus** *ovate then campanulate*, not flattened and not opening into furrows, although split-sulcate, at the very first *smooth; vertex even*, date-brown, *not depressed.* **Stem** 7.5 cent. (3 in.) and more *long*, very fragile, attenuated upwards, *smooth*, pallid. **Gills** linear, 2–3 mm. (1–1½ lin.) broad, adnate with an obsolete collar, pallid then blackish.

Its habit is that of *C. plicatilis*, but taller. Very tender.

In damp shady grassy places. Rare. Sept. Coprinus.

Name—ἡμέρα, a day; βίος, life. Living for a day. *Fr. Monogr.* i. *p.* 468. *Hym. Eur. p.* 332. *Berk. Out. p.* 182. *C. Hbk. n.* 479. *S. Mycol. Scot. n.* 439. *Fl. Dan. t.* 1960. *f.* 2. A. campanulatus *Bolt. t.* 31.

Genus IV.—**Bolbitius** (βόλβιτον, cows' dung). Fr. Epicr. p. 253. Bolbitius.

Hymenophore somewhat separate. Universal veil none, partial one in most rudimentary. Gills membranaceous, soft, *becoming moist* (but not melting away), at length pulverulent with the separating spores. Spores ovate, even, somewhat ferruginous. *Mucid, moist fungi, soon fading* (*and not reviving*), *yellowish.*

A small and very natural group, resembling the Coprini in the mode of growth, the Cortinarii in their fructification, and constituting therefore a genus intermediate between these. To this genus is now referred *A. hydrophilus*, a species of doubtful affinity, and *A. conocephalus. Fr. Hym. Eur. p.* 333.

XXXIX. Bolbitius fragilis.
One-half natural size.

Intermediate on the one hand between *Agaricus* and *Coprinus*, and on the other between *Coprinus* and *Cortinarius.*

The species grow on dung, or manured ground near roads and towns. Their bright colour is attractive.

1. **B. hydrophilus** Fr.—**Pileus** about 4 cent. (1½ in.) broad, date-brown when moist, *tawny* when dry, fleshy-membranaceous, bullate then convex and expanded; when fresh moist, even, *when dry* wrinkled (the prominent disc however even), the bent-in margin undulated; flesh very thin, easily scissile, white when dry. **Stems** 5 cent. (2 in.) long, 2–4 mm. (1–2 lin.) thick, fistulose, somewhat curved and often compressed, under a lens *reticulated with fibrils*, at first white then becoming ferruginous, *obsoletely slightly mealy at the apex.* Veil marginal, fringing, white, very fugacious, often none. **Gills** adnate, *ventricose*, so that occasionally they appear almost free, crowded, watery, *shedding drops*, *date-brown-fuscous.*

Bolbitius. The pilei are commonly very irregularly shaped from mutual pressure. Very cæspitose, very fragile. Spores ferruginous.

In woods and on sawdust. Frequent. July–Oct.

Name—ὕδωρ, water; φίλος, loving. Moisture-loving, watery. *Fr. Hym. Eur. p.* 333. *S. Mycol. Scot. n.* 440. Agaricus hydrophilus *Bull. t.* 511. *Fr. Monogr.* i. *p.* 427. *B. & Br. n.* 1126. *C. Hbk. n.* 413. *Saund. & Sm. t.* 24. A. stipatus *Berk. Eng. Fl.* v. *p.* 113, *partly.*

2. B. Boltonii Fr.—**Pileus** yellow becoming pale, slightly fleshy, at first conical, viscous, at first even, then with the membranaceous margin sulcate, *the darker disc somewhat depressed.* **Stem** attenuated, becoming yellow, *at the first flocculose* with the fugacious cortina. **Gills** somewhat adnate, *light yellow then becoming livid-fuscous.*

Spores brown-fuscous. Pileus at length withering and becoming like paper. Distinct from *B. fragilis* in the *cortina being manifest when young*, in the darker disc of the pileus being depressed, and in the *gills being somewhat adnate and light-yellow-livid* then becoming fuscous.

On dung. Uncommon. May–Sept.

Spores subsphæroid-ellipsoid, 14×8 mk. *K*; 7×5 mk. *W.P.* Name—after Bolton. *Fr. Hym. Eur. p.* 333. *Monogr.* i. *p.* 471. *Berk. Out. p.* 182. *C. Hbk. n.* 481. *S. Mycol. Scot. n.* 441. Agaricus *Bolt. t.* 149.

3. B. fragilis Fr.—**Pileus** 5 cent. (2 in.) broad, *light yellow*, then becoming pale, somewhat membranaceous, almost pellucid, conical then expanded, somewhat umbonate, smooth, viscous, *striate round the margin* (which is often crenulated). **Stem** 7.5 cent. (3 in.) long, 2 mm. (1 lin.) or little more thick, fistulose, attenuated upwards, *naked*, *smooth* (and without a manifest veil), yellow. **Gills** attenuato-adnexed, almost free, ventricose, *yellow then pale cinnamon.*

Spores ferruginous. Thinner than *B. Boltonii*, &c., very fragile, rapidly withering.

On dung. Common. June–Sept.

Spores subsphæroid-ellipsoid, 14–15×8–9 mk. *K*. Name—*fragilis*, fragile. *Fr. Monogr.* i. *p.* 471. *Hym. Eur. p.* 334. *Berk. Out. p.* 182. *C. Hbk. n.* 482. *S. Mycol. Scot. n.* 442. *Hoffm. Ic. t.* 21. *f.* 2. A. equestris *Bolt. t.* 65. *Sow. t.* 96.

4. B. titubans Fr.—**Pileus** 2.5 cent. (1 in.) or less broad, membranaceous, ovato-campanulate when young, even, then *flattened and split*, diaphanous, slightly viscid, the evened disc light yellow, the paler margin plicate or rufescent-striate. **Stem** 5–7.5 cent. (2–3 in.) and more long, scarcely 2 mm. (1 lin.) thick, fistulose, equal, even, *shining*, *yellowish*. Veil none. **Gills** *adnexed*, dis-

tant when the pileus is split, 2 mm. (1 lin.) broad, alternate, *at first purplish*, then fuscous-flesh-colour. Bolbitius.

Very tender and fragile, smooth, tremulous-wavering, soon wasting away.

Among grass in rich manured soil, &c. Common. May–Oct.

Pileus yellow, but soon presenting the salmon-tint of the gills, *M. J. B.* Spores 8 × 4 mk. *W. G. S.* Name—*titubans*, shaking. Wavering-tremulous. *Fr. Monogr.* i. *p.* 471. *Hym. Eur. p.* 334. *Berk. Out. p.* 182. *C. Hbk. n.* 483. *S. Mycol. Scot. n.* 443. Agaricus *Bull. t.* 425. *Sow. t.* 128.

5. B. apicalis Smith.—**Pileus** 18 mm. (¾ in.) high, brown, disc ochraceous, membranaceous, striate from the first then plicate, liable to split, disc somewhat fleshy, obscurely umbonate. **Stem** about 5 cent. (2 in.) long, hollow, striate, white, minutely pruinose under a lens. **Gills** somewhat broad, ventricose, free, at first pressed to the stem, brown.

The difference in colour between the two parts of the pileus is defined by a distinct line.

In pastures. Staplehurst. Early summer.

Spores 9 × 6 mk. *W. G. S.* Name—from the singularly defined *apex*. *Smith* in *C. Hbk. n.* 484. *Fr. Hym. Eur. p.* 334.

6. B. tener Berk.—**Pileus** white, moist, conical, elongated. **Stem** white, bulbous at the base. **Gills** attenuated behind, nearly free, salmon-coloured.

Very delicate. At first looking like a dry specimen of *A. tener*.

On lawn and rich ground. Uncommon. Sept.

Stem as much as 5 cent. (2 in.) long, not distinctly bulbous. Pileus, in specimens I have seen, flesh-colour then whitish, *Fr.* Spores 12 × 5 mk. *W. P.* Name—*tener*, tender. *Berk. Out. p.* 183. *t.* 12. *f.* 2. *C. Hbk. n.* 485. *S. Mycol. Scot. n.* 444. *Fr. Hym. Eur. p.* 335. *Icon. t.* 130. *f.* 4. Bolb. albipes *Fr. Monogr.* ii. *p.* 306.

7. B. rivulosus B. & Br.—**Pileus** about 4 cent. (1½ in.) broad, tan-colour, campanulate, rivulose. **Stem** attenuated upwards. **Gills** narrow, cinnamon.

Very different from any other known species.

On earth in an orchard house. Chiswick, 1876. July.

Name—*rivula*, a small stream. From the rivulose pileus. *B. & Br. n.* 1773.

INDEX.

AGARICUS *Linn.*	PAGE
AGARICUS *Linn.*—continued.	PAGE
abiegnus *B. & Br.*	158
abhorrens *B. & Br.*	159
abstrusus *Fr.*	279
acerbus *Bull.*	60
acerinus *Fr.*	173
acerosus *Fr.*	177
acervatus *Fr.*	110
acicula *Schæff.*	141
acicularis Hoffm.	150
acuminatus *Fr.*	342
acutesquamosus *Weinm.*	16
adiposus *Fr.*	232
adnatus Schum.	10
adnatus *Smith*	12
Adonis *Bull.*	126
adpressus Brig.	287
ægerita *Fr.*	228
æruginosus *Curt.*	309
æthiops *Fr.*	208
ætites *Fr.*	137
affinis Pers.	252
affricatus Fr.	155
aggregatus *Schæff.*	79
agrarius *Fr.*	326
albellus *Fr.*	56
albellus Schæff.	203
albellus Sow.	57
albobrunneus *Pers.*	40
albocrenatus Jungh.	251
albo-cyaneus *Desm.*	310
albo-cyaneus Saund. & Sm.	313
albus Bull.	227
albus *Schæff.*	59
aleuriatus *Fr.*	290
algidus *Fr.*	180
alkalinus *Fr.*	134
alneus Schæff.	179
alnicola *Fr.*	270
alutaceus Batsch	203
alveolus *Lasch*	300
amarella *Pers.*	73
amarus Bull.	270
amarus *Fr.*	72
ambustus *Fr.*	117
ameides *B. & Br.*	195
amethystinus Bolt.	96
amethystinus *Scop.*	57
amianthinus *Scop.*	24
amictus *Fr.*	138
ammoniacus *Fr.*	135
ammophilus *Dur. & Mont.*	327
anguineus *Fr.*	277
angustissimus *Lasch*	93
annularius Bull.	32
antipus *Lasch*	292
apicreus *Fr.*	272
appendiculatus *Bull.*	323
applanatus *Pers.*	301
applicatus *Batsch*	181
aquosus *Bull.*	112
aratus *Berk.*	344
arcuatus *Bull.*	59
ardosiacus *Bull.*	195
areolatus *Kl.*	325
argillaceus Pers.	252
argyraceus *Bull.*	47
argyrospermus Bull	48
aridus Pers.	287
Arrhenii Fr.	225
arundinaceus Bull.	107
arvalis Secr.	283
arvalis Letell.	284
arvensis *Schæff.*	305
asper *Fr.*	9
asprellus *Fr.*	211
asterosporus *Quel.*	248
astragalinus *Fr.*	269
atomatus *Fr.*	346
atratus *Fr.*	116
atricapillus Batsch	188
atrides *Lasch*	219
atro-albus *Bolt.*	132
atro-cæruleus *Fr.*	179
atro-cinereus *Pers.*	49
atro-cyaneus *Batsch*	133
atro-punctus *Pers.*	219
atro-rufus Bolt.	293
atro-rufus *Schæff.*	328
atro-squamosus *Chev.*	47
aulacinus Fr.	336
aurantio-marginatus *Fr.*	123
aureus *Mattusch.*	222
aureus Schæff.	35
aureus Sow.	232
auricomus *Batsch*	249

AGARICUS *Linn.*—continued. PAGE

aurivellus *Batsch* . . . 229
aurivellus Fl. Bor. . . . 229
austriacus Tratt. . . . 102
autochthonus *B. & Br.* . . . 299
Babingtonii *Blox.* . . . 213
Badhami *B. & Br.* . . . 17
badipes *Fr.* . . . 282
badipus *Pers.* . . . 283
badius Schæff. . . . 11
balaninus *Berk.* . . . 121
Batschianus *Fr.* . . . 194
Belliæ *Johnst.* . . . 163
bellus *Pers.* . . . 95
bifrons *Berk.* . . . 334
biornatus *B. & Br.* . . . 18
blandus Berk. . . . 66
Bloxami *Berk.* . . . 194
bombycinus *Schæff.* . . . 183
Bongardii *Weinm.* . . . 244
brevipes *Bull.* . . . 65
Broadwoodiæ *B. & Br.* . . . 24
brumalis *Fr.* . . . 91
brunneo-villosus Jungh. . . . 245
buccinalis *Sow.* . . . 165
Bucknalli *B. & Br.* . . . 25
bufonius *Pers.* . . . 53
bulbigenus B. & Br. . . . 201
bulbiger *A. & S.* . . . 28
bulbosus Bull. . . . 5
bulbosus Pall. . . . 100
bullaceus *Bull.* . . . 327
bullula *Brig.* . . . 164
butyraceus *Bull.* . . . 101
byssisedus *Pers.* . . . 221
cælatus *Fr.* . . . 55
cæsariatus *Fr.* . . . 250
cæspitosus *Bolt.* . . . 156
calamistratus *Fr.* . . . 239
caliginosus *Jungh.* . . . 341
calolepis *Fr.* . . . 302
campanella *Batsch* . . . 160
campanulatus Bolt. . . . 361
campanulatus Bull. . . . 292
campanulatus *Linn.* . . . 340
campanulatus Schæff. . . . 294
campestris *Linn.* . . . 306
camptophyllus *Berk.* . . . 161
canaliculatus Schum. . . . 70
cancrinus *Fr.* . . . 204
candicans *Pers.* . . . 77
candicans Schæff. . . . 226
Candolleanus *Fr.* . . . 322
caperatus *Pers.* . . . 223
capillaris Fl. Dan. . . . 139
capillaris *Schum.* . . . 150
capistratus *Cke.* . . . 228
capniocephalus *Bull.* . . . 262
capnoides *Fr.* . . . 317
caput-Medusæ *Fr.* . . . 314
carbonarius Batsch . . . 340
carbonarius *Fr.* . . . 268
carcharias *Pers.* . . . 22
carneo-albus *With.* . . . 205
carneo-griseus *B. & Br.* . . . 218
carneolus Fr. . . . 55
carneus *Bull.* . . . 55
carnosus Sow. . . . 100
carpophilus *Fr.* . . . 289

AGARICUS *Linn.*—continued. PAGE

carptus *Scop.* . . . 244
cartilagineus *Bull.* . . . 48
cascus *Fr.* . . . 321
catinus *Fr.* . . . 87
caudatus *Fr.* . . . 345
caulicinalis Bull. . . . 103
Ceciliæ B. & Br. . . . 12
centunculus *Fr.* . . . 278
cepæstipes *Sow.* . . . 22
cerinus *Pers.* . . . 54
cernuus *Fl. Dan.* . . . 330
cerodes *Fr.* . . . 280
cerussatus *Fr.* . . . 75
cervinus *Schæff.* . . . 187
chalybœus *Pers.* . . . 209
chelidonius *Fr.* . . . 143
chimonophilus *B. & Br.* . . . 303
chioneus *Pers.* . . . 182
chloropolius *Fr.* . . . 211
chloroticus Jungh. . . . 131
chondrodermus *B. & Br.* . . . 326
chrysoleucus Pers. . . . 158
chrysophæus *Schæff.* . . . 190
chrysophyllus *Fr.* . . . 153
cidaris *Fr.* . . . 276
ciliaris Bolt. . . . 338
cincinnatus *Fr.* . . . 241
cinctulus Bolt. . . . 342
cinerascens *Bull.* . . . 62
cinerea Krombh. . . . 9
cinereo-rimosus Batsch . . . 50
cinereus Bull. . . . 353
cinnabarinus *A. & S.* . . . 23
circinatus *Fr.* . . . 171
circinatus Schum. . . . 8
cirrhatus *Schum.* . . . 105
citrina Pers. . . . 4
citrinellus *Pers.* . . . 146
citrino-albus Vitt. . . . 5
civilis *Fr.* . . . 61
Clarkii *B. & Br.* . . . 251
claviceps *Fr.* . . . 257
clavicularis *Fr.* . . . 145
clavipes *Pers.* . . . 70
clavus Batsch . . . 257
clavus Bolt. . . . 141
clavus Brig. . . . 110
clavus *Linn.* . . . 113
clivensis *B. & Br.* . . . 331
clivulorum Letell. . . . 325
clusilis *Fr.* . . . 119
clypeatus *Linn.* . . . 198
clypeolarius *Bull.* . . . 19
coccineus Sow. . . . 124
cœlestinus *Fr.* . . . 217
cohærens *Fr.* . . . 128
collariatus *Fr.* . . . 140
collinus Larbr. . . . 125
collinus *Scop.* . . . 106
colossus *Fr.* . . . 38
columbetta *Fr.* . . . 44
columbinus Bull. . . . 209
columbinus Sow. . . . 209
comatus Fl. Dan. . . . 349
comosus *Fr.* . . . 228
compactus Sow. . . . 40
comptulus B. & Br. . . . 329
comptus *Fr.* . . . 329

AGARICUS *Linn.*—continued. PAGE

comtulus *Fr.* 308
concavus *Scop.* 90
confertus *Bolt.* 293
confluens *Pers.* 104
confragosus *Fr.* 234
congregatus Sow. 354
conigenus *Pers.* 105
conissans *Fr.* 271
conopileus *Fr.* 332
conspersus *Pers.* 288
constrictus *Fr.* 31
Cookei *Fr.* 234
coprophilus *Bull.* 327
coracinus *Fr.* 115
corrugis *Pers* 333
corticalis Bull. 149
corticatus *Fr.* 166
corticatus Saund. & Sm. . . . 173
corticola *Schum.* 149
costatus *Fr.* 199
craspedius *Fr.* 169
crassifolius *Berk.* 50
crassipes Schæff. 100
crenatus *Lasch* 346
cretaceus Bull. 22
cretaceus *Fr.* 306
cretatus *B. & Br.* 205
cristatus *A. & S.* 20
cristatus Harz. 23
crobulus *Fr.* 299
crocatus *Schrad.* 143
croceus Bolt. 24
cruentus *Fr.* 142
crustiliniformis *Bull.* 260
cryptarum *Letell.* 81
cucumis *Pers.* 277
cuneifolius *Fr.* 50
cupularis *Bull.* 297
Curreyi *Berk.* 247
curvipes *Fr.* 233
cyanophæus *Fr.* 72
cyathiformis *Fr.* 88
cylindricus Sow. 349
cynotis Pers. 180
cyphellæformis *Berk.* 180
dealbatus *Sow.* 78
debilis *Fr.* 139
decastes *Fr.* 79
decipiens *Smith* 265
deglubens *Fr.* 245
delicatus *Fr.* 27
demissus *Fr.* 157
denigratus Fr. 225
denticulatus Bolt. 121
depluens *Batsch* 221
descissus *Fr.* 249
destrictus *Fr.* 249
diatretus *Fr.* 92
difformis *Schum.* 76
dimidiatus Bull. 172
dimidiatus Schæff. 167
directus *B. & Br.* 163
discopus *Lev.* 148
dispersus *B. & Br.* 287
dispersus *Fr.* 319
dispersus Pers. 287
disseminatus *Pers.* 346
dissiliens *Fr.* 133

AGARICUS *Linn.*—continued. PAGE

dissimulans *B. & Br.* 234
distans Pers. 312
distortus *Fr.* 100
ditopus *Fr.* 92
domesticus Bolt. 351
dryinus *Pers.* 166
dryophilus *Bull.* 111
dulcamarus *A. & S.* 240
dulcamarus Pers. 251
duracinus *Cke.* 63
durus *Bolt.* 225
echinatus *Roth.* 308
echinatus Sow. 179
ectypus *Fr.* 94
edulis Krombh. 306
egenulus *B. & Br.* 323
elæodes *Fr.* 318
elatus *Batsch* 260
electicus *Buck.* 148
elegans *Pers.* 123
elixus *Sow.* 80
Elvensis *B. & Br.* 304
embolus *Fr.* 299
empyreumaticus *B. & Br.* . . . 345
epibryus *Fr.* 303
epigæus Pers. 221
epipterygius *Scop.* 144
epixanthus *Fr.* 318
epixylon Bull. 181
equestris Bolt. 362
equestris *Linn.* 35
erebius *Fr.* 224
ericæus *Pers.* 325
ericetorum *Bull.* 88
ericetorum Pers. 157
erinaceus *Fr.* 287
ermineus *Fr.* 20
escharoides *Fr.* 288
esculentus *Wulf.* 109
euchrous *Pers.* 209
euosmus *Berk.* 172
eutheles *B. & Br.* 248
excelsus *Fr.* 6
excisus *Lasch* 129
excissus *Fr.* 66
excoriatus *Schæff.* 15
eximius *Smith* 188
expallens *Pers.* 89
exquisitus Vitt. 306
exsculptus *Fr.* 112
extuberans Batt. 112
extuberans *Fr.* 112
farinaceus Huds. 96
fascicularis *Huds.* 318
fastibilis *Fr.* 255
fastigiatus *Schæff.* 246
fertilis *Berk.* 196
fibrillosus *Pers.* 335
fibrosus *Sow.* 246
fibula *Bull.* 163
filiceus *Cke.* 275
filopes *Bull.* 138
fimbriatus *Bolt.* 169
fimetarius Bolt. 349
fimicola *Fr.* 342
fimiputris *Bull.* 339
firmus *Pers.* 257
flaccidus *Sow.* 86

AGARICUS *Linn.*—continued. PAGE

flammans *Fr.* 232
flavidus *Schæff.* 270
flavidus Sow. 73
flavo-albus *Fr.* 127
flavo-brunneus *Fr.* . . . 39
flavo-floccosus Batsch . . 24
flavo-virens Pers. . . . 35
floccifer *B. & Br.* 265
floccosus Schæff. 230
flocculentus Poll. . . . 240
flocculosus *Berk.* 243
flos-sulphuris Schnitz. . . 22
fluxilis *Fr.* 180
focalis *Fr.* 29
fœnisecii *Pers.* 331
formosa Gonn. & Rab. . . 5
formosus *Fr.* 210
fragrans *Sow.* 93
Friesii *Lasch* 16
frumentaceus *Bull.* . . . 41
fucatus *Fr.* 36
fulvellus Bull. 227
fulvellus *Fr.* 39
fulvo-strigosus *Br. & Br.* . 214
fulvus Bull. 39
fulvus Schæff. 11
fumosus Harz. 36
fumosus *Pers.* 80
fungites Batsch 11
furfuraceus *Pers.* 297
fuscipes Sow. 277
fusco-purpureus Lasch . . 124
fusiformis Bull. 100
fusiformes Schum. 48
fusipes *Bull.* 99
fusus *Batsch* 269
gadinoides *Smith* 176
galericulatus *Scop.* . . . 130
gallinaceus *Scop.* 78
galopus *Pers.* 143
gambosus *Fr.* 56
gangrænosus *Fr.* 71
gausapatus *Fr.* 46
geophyllus *Sow.* 252
Georgii Sow. 305
Georginæ *Smith* 28
geotropus *Bull.* 85
giganteus Leys. & Auct. . 82
giganteus Sow. 82
gilvo-brunneus Jungh. . . 292
gilvus *Pers.* 84
gilvus Schæff. 256
glareosus *B. & Br.* . . . 336
glaucophyllus *Lasch* . . . 156
glaucus Bull. 207
globulifer Brond. 106
gloiocephalus *Dec. Fl.* . . 185
gloiodermus *Fr.* 26
glutinosus Curt. 314
glutinosus *Lind.* 256
gnaphalio-cephalus Bull. . 254
Goliath *Br.* 29
Gordoni *B. & Br.* 335
gossypinus *Bull.* 336
gracilentus *Krombh.* . . . 15
gracilis *Br.* 343
gracillimus *Weinm.* . . . 164
graminicola *Nees.* 289

AGARICUS *Linn.*—continued. PAGE

grammocephalus Bull. . . . 98
grammopodius *Bull.* . . . 64
granulatus Schæff. 43
granulosus *Batsch* 23
graveolens Sow. 56
griseo-cyaneus *Fr.* 197
griseo-pallidus *Desm.* . . . 160
griseo-rubellus *Lasch* . . . 218
griseus *Fr.* 162
griseus Schæff. 110
gummosus *Lasch* 268
guttatus *Schæff.* 43
gymnopodius *Bull.* . . . 264
hæmactus *Berk. & Cke.* . . 245
hæmatites *B. & Br.* . . . 31
hæmatopus *Pers.* 141
hæmorrhoidarius *Kalchbr.* . 307
hamadryas *Fr.* 276
hariolorum *D.C.* 103
haustellaris *Fr.* 302
hebes *Fr.* 330
helodes *Fr.* 193
helomorphus *Fr.* 274
hepaticus *Batsch* 157
hepaticus Weinm. 62
heteroclitus *Fr.* 229
hiascens *Fr.* 344
hiemalis *Osbeck.* 149
hirneolus *Fr.* 71
hirsutus *Lasch* 240
hispidulus *Fr.* 189
hispidus *Lasch* 18
hiulcus *Fr.* 247
Hobsoni *Berk.* 181
holosericeus *Fr.* 21
Hookeri Kl. 309
horizontalis *Bull.* 278
humilis *Fr.* 65
hyalinus Schæff. 11
hybridus Bull. 269
hybridus *Fr.* 272
hybridus Sow. 272
hydrogrammus *Fr.* 151
hygrophilus *Fr.* 330
hypnophilus *Berk.* 182
hypnorum *Batsch* 294
hystrix *Fr.* 238
icterinus *Fr.* 215
illinitus *Fr.* 27
inabricatus *Fr.* 45
immundus *Berk.* 46
impolitus Schum. 96
inamœnus *Fr.* 53
inauratus *Smith* 271
incanus *Fr.* 210
incilis *Fr.* 83
infula *Fr.* 216
infumatus *B. & Br.* . . . 159
infundibuliformis Bull. . . 86
infundibuliformis *Schæff.* . . 82
ingratus *Schum.* 104
innocuus *Lasch* 279
inodorus Bull. 197
inolens *Fr.* 116
inopus *Fr.* 271
inornatus *Sow.* 71
inquilinus *Fr.* 300
integrellus *Pers.* 164

AGARICUS *Linn.*—continued. PAGE

inunctus *Fr.* 310
inversus *Scop.* 85
ionides *Bull.* 54
Iris *Berk.* 122
ischnostylus *Cke.* 262
jecorinus B. & Br. 225
Jerdoni *B. & Br.* 315
jubatus *Fr.* 196
junceus *Fr.* 214
juncicola *Fr.* 150
juncinus *Smith* 267
Junonius *Fr.* 233
Keithii *Phil. & Plow.* 51
laccatus *Scop.* 95
laceratus *Lasch* 117
lacerus *Fr.* 243
lachrymabundus Bull. 321
lachrymabundus *Fr.* 320
lachrymabundus Sow. 321
lacteus Bull. 150
lacteus *Pers.* 127
lampropus *Fr.* 207
lanaripes *Cke.* 322
lanuginosus *Bull.* 240
lappula *Fr.* 207
laricinus Bolt. 32
lascivus *Fr.* 53
lateralis Fl. Dan. 180
lateritius *Fr.* 291
latus Bolt. 188
lauro-cerasi *B. & Br.* 176
laxipes *Fr.* 102
lazulinus *Fr.* 209
Leightoni *Berk.* 179
leiocephalus *B. & Br.* 321
leiopus Pers. 101
lenticularis *Lasch* 10
lentus *Pers.* 266
leochromus *Cke.* 227
leoninus *Schœff.* 190
leptocephalus *Pers.* 134
leucocephalus Bull. 60
leucocephalus *Fr.* 60
leucogalus *Cke.* 144
leucophanes *B. & Br.* 339
leucophyllus *Fr.* 154
leucotephrus *B. & Br.* 323
leucothites Vittad. 21
Leveillianus D. & M. 225
licmophorus *B. & Br.* 22
lignatilis Bull. 272
lignatilis *Fr.* 170
limpidus *Fr.* 176
lineatus *Bull.* 126
liquiritiæ *Pers.* 273
lividus *Bull.* 192
lixivius *Fr.* 67
lobatus Sow. 86
longicaudus *Pers.* 261
longipes *Bull.* 98
loricatus *Fr.* 49
Loveianus *Berk.* 184
lubricus *Fr.* 266
lucifugus *Fr.* 251
lugens *Jungh.* 261
lugubris *Fr.* 276
lupinus *Fr.* 266
luridus *Schœff.* 43

AGARICUS *Linn.*—continued. PAGE

luteo-albus *Bolt.* 127
luteus With. 22
luxurians *Fr.* 228
macilentus *Fr.* 113
macrocephalus Schulz. 48
macropus *B. & Br.* var. 224
macropus Pers. 223
macrorhizus *Lasch* 47
maculatus *A. & S.* 100
madreporeus Batsch 48
magnificus *Fr.* 9
magnimamma *Fr.* 263
majalis *Fr.* 199
majalis Saund. & Sm. 196
mammosus *Linn.* 213
mappa *Fr.* 4
marginatus *Batsch* 235
marginellus *Pers.* 122
Mariæ Kl. 17
maritimus *Fr.* 242
Marklini Tratt. 171
mastiger *B. & Br.* 333
mastoideus *Fr.* 16
mastrucatus *Fr.* 179
maurus *Fr.* 152
maximus *Fl. Wett.* 81
medius *Schum.* 186
medullatus *Fr.* 26
megalodactylus *Berk. & Br.* . . . 10
melaleucus *Pers.* 64
melaspermus *Bull.* 311
meleagris *Sow.* 18
melinoides Bull. 280
melinoides *Fr.* 280
melleus *Fl. Dan.* 31
membranaceus *Fr.* 82
merdarius *Fr.* 313
mesodactylus B. & Br. 225
mesomorphus *Bull.* 25
mesophæus *Fr.* 258
metachrous *Fr.* 91
metatus *Fr.* 135
metatus Secr. 133
metulæsporus *B. & Br.* 19
microrhizus *Lasch* 337
militaris *Lasch* 61
millus Sow. 32
mimicus *Smith* 103
minutus *Quel.* 295
mirabilis Cke. & Quel. 123
mitis *Pers.* 175
mixtus *Fr.* 267
mollis Bolt. 71
mollis *Schœff.* 301
molliusculus Sow. 191
morosus Jungh. 248
mniophilus *Lasch* 295
mucidus *Schrad.* 32
Müller*i Fr.* 230
mundulus *Lasch* 203
muralis *Sow.* 158
muricatus Fl. Dan. 24
muricatus Fr. 234
murinaceus *Bull.* 51
murinaceus Gonn. & Rab. . . . 70
murinaceus Krombh. 48
murinus *Batsch* 117
murinus Sow. 210

AGARICUS *Linn.*—continued.	PAGE
muscarius *Linn.*	5
muscigenus *Schum.*	114
mussivus *Fr.*	255
mustelinus *Fr.*	236
mutabilis Batsch	236
mutabilis Fl. Bat.	32
mutabilis *Schæff.*	235
muticus *Fr.*	244
mutilus *Fr.*	171
mycenoides *Fr.*	237
mycenopsis *Fr.*	296
myomyces Alb. and Schw.	47
myosotis *Fr.*	285
nanus Bull.	128
nanus *Pers.*	189
napipes Krombh.	48
naucinus *Fr.*	21
nebularis *Batsch*	70
Neesii Klotsch.	188
nefrens *Fr.*	211
neptunеus *Batsch*	75
nictitans *Fr.*	39
nidorosus *Fr.*	201
nigrella *Pers.*	291
nitellinus *Fr.*	108
nitidus Fl. Dan.	33
nitidus *Fr.*	9
nivalis Grev.	11
niveus Fl. Dan.	158
niveus Sow.	221
noli-tangere *Fr.*	337
nuceus *Bolt.*	281
nucisedus *Fr.*	328
nudipes *Fr.*	262
nudus *Bull.*	62
nudus Harz.	72
nummularius *Fr.*	109
obbatus *Fr.*	90
obesus Batsch	203
obesus Schum.	256
obscurus *Pers.*	245
obscurus Schæff.	32
obsoletus *Batsch*	94
obturatus *Fr.*	311
obturatus Krombh.	226
obtusatus *Fr.*	334
ocellatus *Fr.*	113
ochraceus Bull.	24
odorus *Bull.*	74
œdematopus *Schæff.*	100
offuciatus *Fr.*	153
olivaceo-fuscus Fl. Dan.	33
ombrophilus *Fr.*	225
oniscus *Fr.*	155
opacus *With.*	81
Orcella *Bull.*	203
oreinus *Fr.*	59
orirubens *Quel.*	47
ostreatus *Jacq.*	172
ovalis *Fr.*	292
ovinus Bull.	50
oxyosmus Mont.	309
ozes *Fr.*	115
pachyphyllus Berk.	50
pædidus *Fr.*	67
pallidus Schæff.	57
pallidus Sow.	203
palmatus Sow.	169

AGARICUS *Linn.*—continued.	PAGE
paludosus *Fr.*	298
panæolus *Fr.*	63
pantherinus *D.C.*	6
pantoleucus *Fr.*	171
papilionaceus *Fr.*	341
parabolicus *Fr.*	131
parilis *Fr.*	83
Parkensis *Fr.*	218
parvulus *Weinm.*	186
pascuus *Pers.*	212
patulus *Fr.*	58
pauperculus *Berk.*	134
pausiacus *Fr.*	92
pediades *Fr.*	284
pelianthinus *Fr.*	121
pelliculosus *Fr.*	145
pellospermus Bull.	333
peltatus *Fr.*	136
Pengellei *B. & Br.*	72
pennatus *Fr.*	336
Percevali *B. & Br.*	312
perpendicularis Bull.	110
personatus *Fr.*	61
Persoonianus *Phil. & Plow.*	200
Persoonii Du Port	201
pessundatus Batt.	260
pessundatus *Fr.*	41
petaloides *Bull.*	174
petasatus *Fr.*	188
petiginosus *Fr.*	263
pezizoides *Nees.*	303
phæocephalus *Bull.*	246
phæospermus Fr.	312
phalænarum *Fr.*	339
phalloides *Fr.*	4
phiala Fl. Dan.	161
Phillipsii *B. & Br.*	303
philonotis *Lasch*	155
phlebophorus *Dittm.*	191
phonospermus Bull.	196, 198
phyllophilus *Fr.*	76
physaloides *Bull.*	328
piceus *Kalchbr.*	215
picreus *Fr.*	273
picreus Pers.	273
pictus *Fr.*	161
pileolaris Bull.	70
pileolarius Sow.	85
pilosellus Pers.	292
pilosus Batsch	138
pilulæformis *Bull.*	324
pisciodorus *Ces.*	214
pithyophilus *Secr.*	77
placenta *Batsch*	193
placidus *Fr.*	206
planus Sow.	260
platyphyllus *Fr.*	98
plexipes *Fr.*	116
plicato-crenatus *Fr.*	146
plicosus *Fr.*	136
plumbeus Schæff.	11
plumosus *Bolt.*	241
pluteus Dittm.	188
polius Fr.	80
polygrammus *Bull.*	131
polystictus *Berk.*	24
pomonæ Lenz.	56
pomposus Bolt.	269

AGARICUS *Linn.*—continued. PAGE

popinalis *Fr.* 203
porcellanus Schæff. 349
porphyroleucus *Bull.* 64
porrigens *Pers.* 178
portentosus *Fr.* 36
Postii *Fr.* 153
præcox *Pers.* 226
pravus *Lasch* 54
procerus *Scop.* 13
proliferus *Fr.* 128
pronus *Fr.* 345
protractus *Fr.* 118
pruinosus *Lasch* 90
prunuloides *Fr.* 192
prunulus *Scop.* 202
prunulus Viv. 202
psammicola *B. & Br.* 129
psathyroides *Cke.* 107
pseudo-androsaceus *Bull.* . . 159
pseudo-clypeatus Bolt. . . . 133
pseudo-purus *Cke.* 125
pterigenus *Fr.* 148
pubescens Sow. 179
pudicus *Bull.* 227
puella Gonn. & Rab. 6
puellaris *Fr.* 15
pullatus *Berk. & Cke.* . . . 133
pulmonarius *Fr.* 174
pulverulentus Bull. 271
pulvinatus Bolt. 11
pumilus Bull. 127
pumilus *Fr.* 237
pumilus Sow. 143
punctatus *Fr.* 257
purpureus Pers. 54
purus *Pers.* 125
pusillus Pers. 186
pusillus Schæff. 284
pusiolus *Fr.* 281
putidus *Fr.* 68
pygmeo-affinis *Fr.* 293
pyriodorus *Pers.* 242
pyrotrichus *Holmsk.* 320
pyrrhospermus Bull. 190
pyxidatus *Bull.* 154
quinquepartitus *Fr.* 37
racemosus *Pers.* 106
rachodes *Vitt.* 14
radicatus *Relh.* 97
radicosus *Bull.* 226
Ralfsii *B. & Br.* 303
ramentaceus *Bull.* 30
ramentaceus Krombh. 23
ramoso-radicatus Bolt. . . . 272
rancidus *Fr.* 114
ravidus Fr. 296
relicinus *Fr.* 239
reniformis *Fr.* 176
Rennyi *B. & Br.* 245
repandus *Bull.* 193
repandus Fr. 246
repens *Fr.* 98
resplendens *Fr.* 37
resutus *Fr.* 196
reticulatus *Pers.* 289
retirugis *Fr.* 340
retostus *Fr.* 159
revolutus *Kickx.* 173

AGARICUS *Linn.*—continued. PAGE

rhabarbarinus Krombh. . . . 232
rhodocylix *Lasch* 219
rhodopolius *Fr.* 198
rimosus *Bull.* 248
rimulincola *Rabenh.* 278
rivulosus *Pers.* 75
robustus *A. & S.* 30
roridus *Fr.* 146
rosellus Batsch 96
rosellus *Fr.* 124
roseus Fl. Dan. 125
roseus Pers. 125
rubens Scop. 8
rubescens *Pers.* 8
rubi *Berk.* 302
rubidus *Berk.* 217
rubiginosus *Pers.* 294
rubricatus *B. & Br.* 279
rubro-marginatus *Fr.* 124
rufo-carneus *Berk.* 215
rufulus B. & Br. 157
rufus Pers. 46
rugosus *Fr.* 129
rusticus *Fr.* 156
Ruthæ *B. & Br.* 170
rutilans *Schæff.* 42
saccharifer*us B. & Br.* . . . 148
Sadleri *B. & Br.* 96
sagarum Secr. 104
salicinus *Pers.* 189
salignus *Abb. d. Schw.* . . . 173
sambucinus *Fr.* 250
sanguinolentus *A. & S.* . . . 142
sapineus *Fr.* 272
saponaceus *Fr.* 48
Saundersii *Fr.* 195
scabellus A. & S. 103
scabellus *Fr.* 252
scaber *Müll.* 242
scalpturatus *Fr.* 44
scambus *Fr.* 274
Schæfferi *B. & Br.* 317
Schumacheri *Fr.* 58
scobicola *B. & Br.* 332
scobinaceus *Fr.* 315
scolecinus *Fr.* 281
sejunctus *Sow.* 35
semiflexus *B. & Br.* 279
semiglobatus *Batsch* 314
semilanceatus *Fr.* 329
seminudus *Lasch* 25
semiorbicularis *Bull.* 284
semiovatus Sow. 338
semitalis *Fr.* 99
semivestitus *B. & Br.* 335
senescens *Batsch* 259
senilis *Fr.* 87
separatus *Linn.* 338
septicus *Fr.* 178
sericellus *Fr.* 197
sericeus *Bull* 200
sericeus Krombh. 44
sericeus Pers. 201
serico-cephalus Letell. . . . 186
serotinus *Schrad.* 175
serratus Bolt. 42
serrulatus *Pers.* 208
sessilis Bull. 221

AGARICUS *Linn.*—continued. PAGE

setosus *Sow.* 149
sideroides *Bull.* 282
silaceus *Pers.* 316
silvaticus *Schæff.* 307
silvicola *Vitt.* 307
sinapizans *Fr.* 259
sindonius *Fr.* 251
sinuatus *Fr.* 192
sinuosus Saund. & Sm. . . . 192
siparius *Fr.* 287
sistratus *Fr.* 25
sobrius *Fr.* 286
socialis *Fr.* 72
solitarius Bull. 7
solitarius Gonn. & Rab. . . . 4
solstitialis *Fr.* 208
sordidus *Fr.* 66
Sowerbei Krombh. . . . 203
spadiceo-griseus *Schæff.* . . . 334
spadiceus *Fr.* 329
sparteus *Fr.* 293
spathulatus Pers. . . . 174
speciosus *Fr.* 185
speciosus Klotsch. . . . 186
spectabilis *Fr.* 231
speculum *Fr.* 201
speireus *Fr.* 140
spermaticus *Fr.* 38
sphærosporus Krombh. . . . 21
sphagnicola *Berk.* 155
sphagnorum *Pers.* 295
sphinctrinus *Fr.* 340
spiloleucus Krombh. . . . 255
spilopus *B. & Br.* 190
spinulosus *Stev. & Sm.* . . . 84
spissus *Fr.* 8
splendens Fl. Dan. 33
splendens *Pers.* 85
spodochrous Pers. 119
spodoleucus Fr. 171
spongiosus *Fr.* 167
spumosus *Fr.* 268
squamosus Bull. 230
squamosus *Fr.* 312
squarrosus Bull. 298
squarrosus *Müll.* 230
stagninus *Fr.* 298
stanneus *Fr.* 137
stans *Fr.* 41
stellatus *Fr.* 160
stercorarius *Fr.* 314
Stevensoni *B. & Br.* . . . 107
stilbocephalus *B. & Br.* . . . 205
stipatus Fl. Dan. 334
stipitarius *Fr.* 103
stipitis Sow. 32
stipticus Fl. Dan. 175
stolonifer *Jungh.* 110
storea *Fr.* 319
strangulatus *Fr.* 11
striæpes *Cke.* 282
striæpileus *Fr.* 154
striatulus *Fr.* 181
striatulus Pers. 221
striatus Bull. 360
striatus Schæff. 40
strobiliformis Gonn. and Rab. . 9
strobiliformis *Vitt.* 7

AGARICUS *Linn.*—continued. PAGE

strobilinus *Fr.* 124
stylobates *Pers.* 147
suavis Lasch 211
subalutaceus *Batsch* . . . 74
subantiquatus Batsch . . . 20
subatratus *Fr.* 343
subbalteatus *B. & Br.* . . . 341
subcavus *Schum.* 32
subcollariatus *B. & Br.* . . . 259
subinvolutus *Batsch* . . . 84
subinvolutus Saund. & Sm. . . 85
sublateritius *Schæff.* . . . 317
subluteus *Fl. Dan.* 234
subpalmatus *Fr.* 168
subpulverulentus *Pers.* . . . 66
subsessilis Fl. Dan. . . . 180
subsquarrosus *Fr.* 231
succineus *Fr.* 108
sudorus *Fr.* 130
sulcatus Lindgr. 255
sulphureus *Bull.* 52
superbus Jungh. 333
Swartzii *Fr.* 163
tabacinus *Dec.* 284
Taylori *Berk.* 184
telmatiæus *Berk & Cke.* . . . 155
temperatus *B. & Br.* . . . 185
temulentus *Fr.* 286
tenacellus *Pers.* 110
tenax *Fr.* 285
tenellus *Fr.* 141
tener *Schæff.* 291
tenerrimus *Berk.* 147
tenuis *Bolt.* 138
tenuis Sow. 140
Terreii *B. & Br.* 23
terreus *Schæff.* 46
terrigenus *Fr.* 224
tesquorum *Fr.* 118
tessulatus *Bull.* 168
testaceus *Batsch* 256
testudineus Pers. 59
Thompsoni *B. & Br.* . . . 198
thraustus *Kalchbr.* . . . 312
tigrinus *Schæff.* 57
tintinnabulum *Fr.* . . . 132
togularis *Bull.* 225
togularis Fr. 225
tornatus *Fr.* 77
tortilis Bolt. 96
trechisporus *Berk.* . . . 253
tremulus *Schæff.* 177
trepidus *Fr.* 344
tricholoma *A. & S.* . . . 254
tricolor Tratt. 208
trilobus Bolt. 11
Trinii *Weinm.* 250
triscopus *Fr.* 283
Trogii *Fr.* 75
trullæformis *Fr.* 82
truncatus *Schæff.* 261
tuba *Fr.* 88
tuberculosus *Schæff.* . . . 233
tuberosus *Bull.* 106
tumidus *Pers.* 51
tumulosus *Kalchbr.* . . . 81
turgidus Grev. 70
tylicolor *Fr.* 119

AGARICUS *Linn* —continued.	PAGE
typhoides Bull.	349
udus *Pers.*	325
ulmarius *Bull.*	167
umbelliferus *Linn.*	158
umbelliferus Schæff.	137
umbilicatus Bull.	119
umbilicatus *Schæff.*	152
umbratilis *Fr.*	162
umbrosus *Pers.*	188
undatus Berk.	103
undatus *Fr.*	204
unicolor *Fl. Dan.*	236
uniformis Pers.	241
urticæcola *B. & Br.*	337
ustalis *Fr.*	40
vaccinus *Pers.*	45
vaginatus *Bull.*	11
Vahlii *Schum.*	223
valgus Holmsk.	158
variabilis *Pers.*	220
variegatus *Scop.*	42
varius Bolt.	342
vatricosus *Fr.*	253
velutinus *Pers.*	321
velutipes *Curt.*	102
venenosa Pers.	5
ventricosus *Bull.*	107
venustissimus *Fr.*	73
venustus Viv.	186
verecundus *Fr.*	216
vermicularis *Fr.*	87
vernicosus *Fr.*	73
vernus *Bull.*	4
verrucosus Bull.	8
verruculosus *Lasch*	231
versicolor *With.*	209
versipellis *Fr.*	258
vertirugis *Cke.*	103
vervacti *Fr.*	283
vestitus Chev.	288
vilis *Fr.*	205
villosus Bolt.	229
vinosus *Bull.*	265
vinosus Corda	333
violaceus Sow.	62
virgatus *Fr.*	52
viridis Pers.	4
virosus *Fr.*	3
virosus Gonn. & Rab.	5
virosus Vitt.	4
vitilis *Fr.*	139
vitreus *Fr.*	137
Vittadinii *Fr.*	20
vittæformis *Fr.*	294
volvaceus *Bull.*	183
volvaceus minor Bull.	186

AGARICUS *Linn.*—continued.	PAGE
vulgaris *Pers.*	145
Whitei *B. & Br.*	253
Worthingtonii *Fr.*	313
Wynnei *B. & Br.*	199
xanthopus *Fr.*	108
xerampelinus Sow.	42
xylophilus Sow.	337
xylophilus *Weinm.*	101
zephirus *Fr.*	126
BOLBITIUS *Fr.*	361
albipes Fr.	363
apicalis *Smith*	363
Boltonii *Fr.*	362
fragilis *Fr.*	362
hydrophilus *Fr.*	361
rivulosus *B. & Br.*	363
tener *Berk.*	363
titubans *Fr.*	362
COPRINUS *Pers.*	347
alternatus *Fr.*	355
aphthosus *Fr.*	351
aratus *B. & Br.*	354
atramentarius *Fr.*	350
comatus *Fr.*	348
cothurnatus *Godey*	360
deliquescens *Fr.*	356
domesticus *Fr.*	358
ephemerus *Fr.*	359
extinctorius *Fr.*	352
filiformis *B. & Br.*	360
fimetarius *Fr.*	352
flocculosus *Fr.*	351
fuscescens *Fr.*	350
hemerobius *Fr.*	360
Hendersonii *Berk.*	356
lagopus *Fr.*	357
macrocephalus *Berk.*	357
micaceus *Fr.*	354
narcoticus *Fr.*	357
niveus *Fr.*	353
nycthemerus *Fr.*	358
ovatus *Fr.*	349
papillatus *Fr.*	355
picaceus *Bull.*	351
plicatilis *Fr.*	359
radians *Fr.*	355
radiatus *Fr.*	358
similis *B. & Br.*	352
sociatus *Fr.*	359
Spraguei *Berk.*	358
sterquilinus *Br.*	349
tomentosus *Fr.*	353
MONTAGNITES,	347

THE END.

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